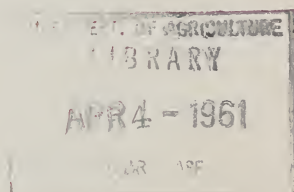


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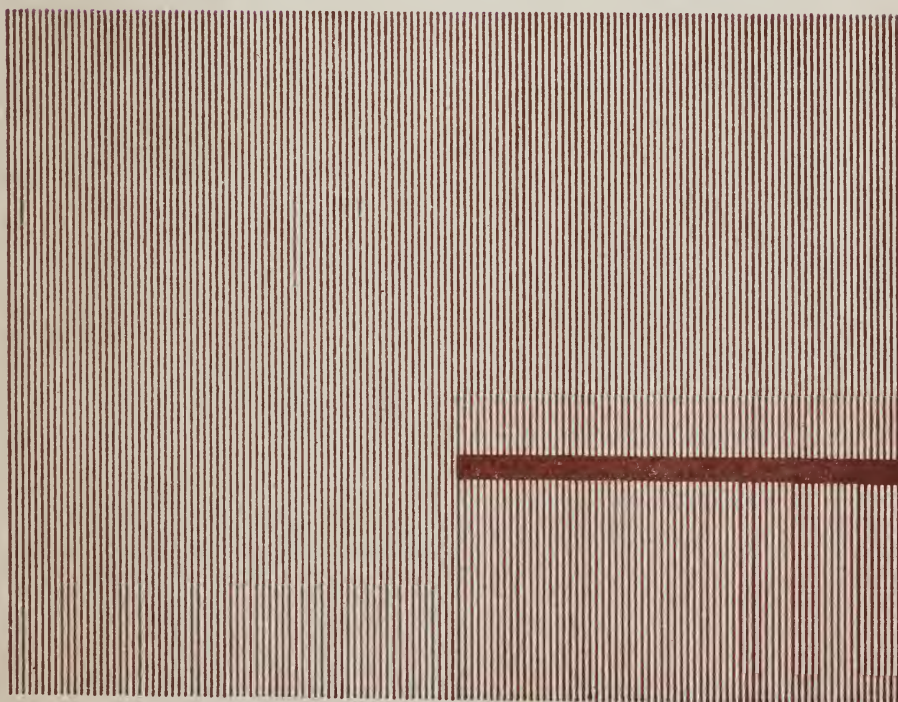
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**The Influences of
Social, Scientific, and
Economic Trends
on Government
Administration**



1960
Jump-McKillop
Lectures

UNITED STATES DEPARTMENT OF AGRICULTURE ■ GRADUATE SCHOOL



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Washington 25, D. C.

**THE INFLUENCES OF SOCIAL, SCIENTIFIC, AND
ECONOMIC TRENDS ON GOVERNMENT
ADMINISTRATION**

**The William A. Jump—I. Thomas McKillop
Memorial Lectures in Public Administration
1960**

Edited by Edmund N. Fulker

**The Graduate School
U. S. DEPARTMENT OF AGRICULTURE
Washington 25, D. C.**

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FOREWORD

Our world is changing at an accelerating pace. "Break-throughs" are occurring with increased frequency and significance throughout the biological, physical, and social sciences.

While tremendous strides are being made in technology and science, human beings generally are prone to act and behave in accordance with precedent and established patterns of thought and action. Changes in human behavior develop slowly. This is true in all human activity; it is particularly so in the processes of administration.

Government today is big, and is becoming increasingly complex. In a world of rapid change and complicated management problems—and a natural human resistance to change—the public executive is faced with challenges and responsibilities of unprecedented magnitude. If these challenges and responsibilities are to be met adequately, government must be flexible and responsive to changing circumstances and their inherent influence on the public needs.

This lecture series was planned in the hope that carefully selected speakers might help to produce in Federal executives an increased awareness and better understanding of the important social, scientific, and economic changes that are taking place in the world today, and to interpret these events in the light of their influence on administration.

Ralph S. Roberts
Administrative Assistant Secretary
U. S. Department of Agriculture

PREFACE

The William A. Jump—I. Thomas McKillop Memorial Lectures in Public Administration are offered as a public service by the Graduate School. They are offered in honor of William A. Jump and I. Thomas McKillop, both of whom were outstanding civil servants—employees of the U. S. Department of Agriculture, and leaders in the art and practice of management.

The present series of five lectures was planned by the following committee:

Carl W. Clewlow, Director, Office of Analysis and Review, Department of the Army

William F. Finan, Assistant General Manager for Regulations and Safety, Atomic Energy Commission

John B. Holden, Director, Graduate School, U. S. Department of Agriculture

Fordyce W. Luikart, Assistant Administrator for Personnel and Training, Federal Aviation Agency

Rufus E. Miles, Jr., Director of Administration, Department of Health, Education and Welfare

Nicholas J. Oganovic, Deputy Executive Director, Civil Service Commission

Artemus E. Weatherbee, Assistant Secretary, Treasury Department

Joseph E. Winslow, Assistant to the Special Assistant to the President for Personnel Management

Ralph S. Roberts, Administrative Assistant Secretary, Department of Agriculture, Chairman

The Graduate School wishes to thank Administrative Assistant Secretary Ralph S. Roberts and the very able committee who selected the theme, planned, and helped conduct this series of lectures. Mr. Fulker, Assistant Director of the Graduate School, was responsible for carrying out the plans and the editing of this publication.

We are deeply indebted to the five speakers who generously contributed their time and ideas.

There were many others who contributed suggestions and time to this series, and this publication. Among them were Assistant Secretary of Agriculture, E. L. Peterson; Mr. O. V. Wells, Administrator, Agricultural Marketing Service; Dr. Byron T. Shaw, Administrator, Agricultural Research Service; Mr. Ernest C. Betts, Jr., Director of Personnel, U. S. Department of Agriculture.

Mr. Nicholas Kominus, Agricultural Marketing Service, rendered invaluable assistance in the editing of this publication. The cover was designed by Mr. Ben Murow of the Office of Information, U. S. Department of Agriculture. Other members of the Graduate School staff also deserve credit, particularly Miss Vera Jensen, Mrs. Ruth Carlock, and Miss Jean Acuff.

Dr. John B. Holden
Director, Graduate School

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INTRODUCTION

Dean Cleveland's "A Philosophy for the Public Executive" was the opening lecture of the 1960 series of Jump-McKillop Memorial Lectures.

As an introduction to the central thesis of his message, Dean Cleveland posed several questions about the "art" and "mechanics" of administration.

Next, he sampled and questioned the value of definitions of administration pointing out that in today's increasingly complex world of ever-accelerating change, new kinds of decisions are required in every field.

He broadly defines a Public Executive as one "marked not by his affiliation with the government necessarily, but by three kinds of attitudes:

1. his understanding of the tension-system of which he is a part;
2. his consciousness of a responsibility to the public interest; and
3. by his unwarranted optimism about the future."

After expanding on each of these points, Dean Cleveland points out that it is no longer enough for the specialist or expert to "be right." Today he must also be effective administratively.

The next three speakers in the series focused on the theme of the lecture series.

The Influence of Social Trends—Congressman Johnson.

Dr. Johnson began with a panoramic romping through history. "Administration qua administration" is a very new and young science—a social science and thus an inexact science—"an art, quite as much as it is a science."

He next reviewed some social forces in U. S. history and their effects on administration.

At the outset of our nationhood the administration was largely in hands of the "intelligent amateur"—the architects of our revolution—a small, relatively elite group, highly educated, widely read, thoughtful, and intellectually disciplined men.

As our country grew geographically and in population, administration became increasingly partisan. Administration by the "intelligent amateur" gave way to administration by the "party stalwart" followed by the "hungry patronage seeker." Abuse led to the establishment of the civil service system which Congressman Johnson describes as "the real root, the real birthday of a profession of public administration in American history."

Next there emerged the "brilliant and devoted amateur" and "a new kind of creative professional politician." The latter recognized "that public administration is really the art of translating law and social purpose into organization and into operation."

Congressman Johnson then sketched some of the vast changes or "revolutions" that have occurred on the local scene since the founding of our nation—the industrial, financial, commercial, agricultural, and urban revolutions.

On the international scene he mentioned fascism, nazism, and communism and their effects on governmental administration in the U. S. especially regarding our attitudes and views about international affairs.

He cited a few more "revolutions"—those in electronics, communications, transportation, and medicine, and closed by reminding the audience that "our task in public administration and in law and policy is to adapt our society to the demands which these revolutions place upon us." The question we need to constantly ask ourselves in face of change is: "What is it that we *ought* to be doing to promote the general welfare? Finally, the task in administration is to say, how can we best accomplish what it is that needs to be accomplished in face of these circumstances."

Influences of Economic Trends on Administration—Dr. Karl Brandt.

Dr. Brandt cautioned that despite our advances in the fields of mathematics, statistical analysis, and data processing, we must recognize that "we cannot rely on statistical trends to continue unchanged or to change in determinate ways. We cannot know in advance when established trends are going to 'jump the tracks.'"

In support of this contention he cited some past predictions which had gone astray. As a postscript to the examples cited, he said: "I do not argue against proper use of projections, but against relying too much on them."

Next he mentioned some fundamental values and issues about our economic and political systems which government policy makers and administrators should keep in mind.

He then reviewed some past fundamental economic trends associated with the period after World War I and leading to the present.

Following this, he discussed implications of these events and epic changes for government administration. In particular he cited the need for "an extraordinary alert, intelligent, well-trained senior civil service"—but cautioned against conformity, in-breeding, unnecessary growth, and related organizational ills.

He concluded by outlining a few things he feels are needed to "counterbalance some of the jeopardies" mentioned. In particular he encouraged friendly discourse with the men and women who operate our enterprises and who by nature are *doers*, not writers. To the knowledge gained from these people who make our system "tick,"

he encouraged listening to the economic analysts and commentators associated with the mass media.

The Influence of Scientific Trends—Dr. Charles Kidd

Dr. Kidd reminded us that "government has become increasingly involved in the conduct and support of science and technology and with their social, economic, and political consequences."

He continued that "one can, in fact, make a good case for the proposition that technological developments constitute the most powerful and pervasive single force affecting our political, economic, and social life."

Dr. Kidd pointed out that "science and technology are not separate from nor uninfluenced by social, political, and economic factors." That to an increasing degree, administrators must be trained to deal with these factors affecting, and conditions necessary to, technological advances."

"In a reciprocal fashion, technological trends affect social and economic trends. In fact, the tremendous impact of technology on production, on social forces, and on man's view of the world create the most significant implications for administration."

Dr. Kidd went on to say that perhaps the most fundamental task of the modern administrator is coping with accelerating rates of change. He then turned to some of the problems involved in the administration of science. He says, "to the scientists, it often appears that the administrative cart is put before the scientific horse."

Promoting Administrative Vitality—Dr. Marshall Dimock.

Dr. Dimock delivered the final lecture of the series. He started his discussion by stating "that whether our free system can survive in competition with dictatorial systems will depend upon which system succeeds in maintaining vitality in administration."

He went on to explain vitality and to discuss institutional complexity which we call bureaucracy. He suggested that "if we could build on the best in bureaucracy and find methods of offsetting the excesses, we would take a long step toward the vitality we are seeking." Dr. Dimock went on to explain several ways in which we could do this.

The need to train administrators in the idea of political economy was introduced into the discussion. "The virtue of the political economy approach to administration is that it trains men to be planners, decision makers, and leaders, all rolled into one."

He suggests "that if we are to solve our leadership and managerial problems in government agencies we must produce men who are outstanding in the fields of production. This represents no lessening of my conviction of the importance of administration. It simply

means that learning to be expert in any field . . . is so demanding of one's attention that training in administration should be secondary. Main emphasis should be on courses that train the mind, the sentiments, the personality, as do subjects such as mathematics, the sciences, the languages, philosophy and the arts."

Dr. Dimock makes it clear that producing and retaining administrative vitality is no simple matter. He concludes by listing certain things he thinks we must make up our minds to do if we are to stand any chance of success.

Edmund N. Fulker
Assistant Director
Graduate School

A PHILOSOPHY FOR THE PUBLIC EXECUTIVE

by

Harlan Cleveland

It is a special privilege to start the Jump-McKillop series this year. I think what I have to say would probably be a little more congenial to Mr. Jump than it would to Mr. McKillop. McKillop was something of a scientist of administration, while Jump was more of an artist. Mr. Jump was one of those extraordinary people who without doing a lot of writing, without being classed as philosopher in any of the who was who volumes, nevertheless was in truth a philosopher in action.

I am billed to talk about philosophy for public executives, so I might do well to lay down a barrage of philosophical citations. Let's start with Michel de Montaigne who—probably not talking about public administration, though he might well have been—once said something like this: "Seriously, is not man a miserable creature? Scarcely does he come into his own powers naturally, to taste a complete, entire and pure pleasure, but that he sets out to curtail it by reason. Not wretched enough, he adds to his misery by art and study."

This afternoon I want to ask a question publicly that I have been asking myself privately ever since I took a job in a university 3½ years ago and got involved in intellectual rationalizations about administration. What makes us think that an intellectual approach to public administration—what makes us think that describing realities, taking thoughts, and spinning theories—really helps people become better executives? Can we actually improve our performance by "art and study"? How important is it for the administrator to understand what he is doing?

Does it help him, for example, if he has a definition of public administration at his fingertips? We professors, of course, must have one ready. If some student should say, "What is public administration, anyway?" we cannot just stand there speechless or say, "Why don't



Harlan Cleveland has been Dean of the Maxwell Graduate School of Citizenship and Public Affairs at Syracuse University since 1956. From 1953 to 1956 he was executive editor and later publisher of "The Reporter" magazine. His 14 years as a public administrator included the position of Assistant Director of the U. S. Mutual Security Agency. He received an A. B. degree from Princeton and was a Rhodes Scholar. Among his recent publications are "The Overseas American" and "The Art of Overseasmanship."

you take our Master's degree course? It only takes $10\frac{1}{2}$ months." Consequently I have been moved to make a collection of definitions of public administration. Let us see if any of them get us anywhere.

My favorite was uttered recently by the philosopher Charlie Brown. You may not recall a scholar by that name, but those of you who realize that some of the best social philosophy of our time is contained in two comic strips—*Peanuts* and *Pogo*—will recognize the author. On a recent occasion Charlie Brown, wearing a baseball hat, was talking with what the sociologists would call his peer-group, and said:

"You know what our team lacked last year? It lacked organization! Well, this year it's going to be different! I've written down the name of each player and what position he plays, and I've attached the papers to a clip-board . . . and if *that* isn't organization, I don't know what is."

We have all known people who thought about administration this way. They are the folks who think it can all be written down in a manual. Some of you will recall the sarcastic slogan somebody coined for the Quartermaster Corps during the war: "Government property is issued in order that a proper record may be kept thereof." Dean Acheson, the essayist, recently reminded us of a remark by Chief Justice Taft that pokes fun at such a person. "I have just been talking with so-and-so," he said, using an eminent name, "about what he calls the machinery of government." Then Taft added chuckling, "and you know, he really thinks it is machinery."

The case against the clipboard theory of administration has been charmingly put by Professor James McCamy of the University of Wisconsin:

"Only a thousand-dollar-a-day consultant in management will solidly plant a leatherbound prediction on the uncertainty of administration and pretend that his chosen scheme will work better than all others. Humbler observers, vowed to poverty and chastity in exchange for the freedom to eat lunch only with friends, know that rules of organization can be followed to a point, and then human behavior takes over and decides what really happens. A plan of organization is like a plan for a house. Neither the planner nor the architect can predict how people will behave inside the structure. A freewheeling executive can ignore and thereby discard in effect a unit that reports directly to him according to the chart. An eccentric homeowner . . . can use the dining room for an aviary and fill the bath tub with alligators . . ."

If administration is not just machinery, is it just art, just a question of personal "style," "primarily aesthetic and moral," as Chester Barnard says? One remembers that Robert Oppenheimer,

throughout those lengthy hearings before the Atomic Energy Commission on the H-Bomb controversy, kept referring to the final success in achieving atomic fission as "beautiful." To most of us, that impressive demonstration of the scientific method called the Manhattan Project seemed an exercise in logical thought and straight-line organization. But to Dr. Oppenheimer the whole thing was evidently an aesthetic experience.

If administration is an art, we might look for its description in the literature of artistic criticism. Consider, for example, the transferability to government workways of this passage from an article called "The Environment of Poetry," by John Ciardi:

"... In any esthetic form all the elements must serve a purpose. As Chekhov said, 'If you bring a cannon onstage, fire it.' It is also true of esthetic form that as soon as you bring in any element for any one purpose, it starts to serve another. You bring in that cannon in Act One in order to use it for firing a shot in Act Five. By the time you get to Act Four you find that you have used it as a place of hiding a letter, as a place for two conspirators to meet, and as a device for proving that your hero knows something about soldering. The fact of art is that everything tends to turn double and triple, and that not only must everything work with everything else, but that it must do so on all levels."

We could hardly do better than that for a description of public administration, could we?

The trouble with art, of course, is that it is inexact. But that is the trouble with executive work too—and therein lies its fascination for those who don't know anything systematic about the art, but somehow know what they like. Major General William Reeder, a former army controller, now on the Syracuse University faculty, captures the spirit of the executive enterprise in *his* definition: "The art of management," he says, "consists of issuing orders based on inaccurate, incomplete, and archaic data, to meet a situation which is dimly understood, and which will not be what the issuer visualizes, orders which will frequently be misinterpreted and often ignored, to accomplish a purpose about which many of the personnel are not enthusiastic." General Reeder's accurate if unattractive picture makes me think of a contribution by Edward J. Green of the Westinghouse Air Brake Company at a session at the American Management Association. While talking about planning he said: "Bad planning is a complicated procedure that enables one to choose the wrong course of action with a higher degree of assurance."

For the most complicated and therefore the truest definition of administration, we have to go back to Paul Appleby—or perhaps

all the way back to Plato. Here is the definition Dean Appleby used to separate the men from the boys in his Maxwell School classes:

"Administration of a democratic government is the conduct of official action in a *responsive* manner—considerate and attentive, respecting individuals and minorities . . .

. . . through a hierarchy controllable by majority through a *structure centralizing responsibility* in a few readily identifiable and popularly elected officials with a subordinate highly diversified bureaucracy in its own way *representative* and in its own way providing checks and balances,

. . . which bureaucracy through *interaction* within itself, with political executive leaders, with other branches or organs of the government and with citizens and interest groups, produces decisions more appropriate to democratic government than any judgment developed less responsibly, more individually, and apart from the discipline and resources of the total governmental-political hierarchy."

Plato made it shorter. Democracy, he said, was a "charming form of government, full of variety and disorder, dispensing a sort of equality to equals and unequals alike."

The Trouble with a Definition

There are two things wrong, I think, with nearly all attempts by experts to tie down the administrative process by defining it and therefore simplifying it. One is the danger that they will make public administration seem so uninteresting that the very people who are challenged by complexity and who are, therefore, the most likely to succeed as public executives, will be repelled by the whole subject and decide that they could do better making Grape-Nuts. The other trouble is that the rules of the game of administration keep changing—and always in the direction of greater complexity, not of greater simplicity. Scientific invention and technological innovation create an accelerating rate of change in every department of life and work. E. B. White's 1927 prediction of a "bright future for complexity in this country" is becoming more true all the time.

In the work of government especially, the social fallout of science is an unimaginable increase in numbers and kinds of new decisions that have to be made. A fine contemporary example is the explosive population increase, and its economic, emotional, religious, military, and diplomatic ramifications. But in every field new kinds of decisions constantly need to be made: about H-bomb testing; about powerful insecticides; about the widespread use of tranquilizers and "lifters;" about the ethics of mass persuasion; about urban congestion; about food surpluses and mass starvation; about interference in the internal affairs of other nations; and about Antarctica and the Moon.

These new decisions are not, you will note, generally a *substitute* for decisions that used to be faced by mankind. They are *additions* to the burden of public responsibility.

To get the expanding volume of decisions made, new social forms are developing. They tend to be large, complex webs of tensions, with power so diffused within them that the term "decision-making," which has been used and abused by a whole generation of political scientists, is now quite misleading. Each "decision" about public affairs is now a complex process of multilateral brokerage both inside and outside the organizations primarily concerned. These new style, complex public—private organizations are manned by a relatively new breed of modern man, which we will call the public executive. It will be my thesis this afternoon that the public executive is marked not by his affiliation with the government, but by three kinds of attitudes:

- His understanding of the web of tensions of which he is a part.
- His consciousness of a responsibility to the public interest.
- His unwarranted optimism about the future.

Now let us take a closer look at each of these.

The Web of Tensions

What do I mean by "understanding the web of tensions?"

You who work in large organizations know instinctively that an organization does not consist of people, but of something you cannot see: the interaction of people with each other. You also know from your own experience that each individual allocates to any one organization only a fractional part of his time and energy and loyalty—just how much depends on the inducements provided by the organization in return. But these two perceptions have misled some thinkers into stating flatly that the primary task of any organization is to get its members to cooperate. Chester Barnard took this line in *The Functions of the Executive*—still our best book of administrative theory, even if it was written 22 years ago. The main problems of administration, according to this view, are: (1) to get members of the agency's own staff to allocate to it an adequate fraction of their loyalty, and (2) to get clients or constituents or customers to cooperate in the appropriate way, buying the organization's products or services, paying the taxes or tariffs the organization levies, accepting the guidance of their behavior by the organization's regulations, and participating in the established processes through which the organization makes up its "mind."

I would not deny that every agency has to get its staff and its constituents to cooperate. But I would argue that in a modern large-scale organization, just getting people to cooperate is by no means

the most pressing problem. You can always get cooperation, after all, by eliminating the real issues that divide people from each other. Perhaps some of you read a story a while ago about a new altar that was constructed somewhere—a revolving altar with three different sides. The worshipper can press a button and be confronted either with a Roman Catholic, a generalized Protestant, or a Jewish setup. That is too easy, isn't it? To make all religions equally available simply avoids all the really interesting questions about religion.

Every one of you who works in the government knows the process by which the boss is screened off from real problems. The assistant director will get the branch chiefs together and say, "Now fellows, you don't seem to be agreeing with each other. Why don't you come into my office and we'll work it out." After the first 10 minutes, it became clear that two of the branch chiefs are diametrically opposed on a matter of fundamental policy. Yet the last thing anybody suggests is to go to the boss and say, "How will we work this out?" Instead, the assistant director says, "Let's go through the document paragraph by paragraph." For everybody knows that even the most acrimonious disagreement can be effectively buried if attention is paid to language rather than to principle. Acheson, again in his capacity as an essayist, has put this well: "... one can always get an agreed paper by increasing the vagueness and generality of its statements. The staff of any interdepartmental committee has a fatal weakness for this kind of agreement by exhaustion."

It is too easy just to get people to cooperate. People are, if anything, too conformist. This is why the executive's most difficult task is almost precisely the reverse of inducing cooperation. It is to maintain an adequate degree of tension within the organization—enough fruitful friction among its members so that all possible points of view are weighed before important decisions are made. No executive worth his salt wants staff members that are so bored with the agency's work, or so undifferentiated in function, that they never argue with each other or with the boss.

From this point of view, any large organization can be defined as "a deliberately created system of tensions into which each individual is expected to bring workways, viewpoints, and outside relationships markedly different from those of his colleagues. The executive's task is to draw from these conflicting forces the elements of wise action from day to day." You not only *can* define administration this way, I *have* defined it this way in print. You don't have to accept it, but I am stuck with it.

You can find the fruitful friction of administration in almost any organization that works well, no matter how it is organized. It is a

kind of tension you want; indeed if you do not have it, you do not have an organization. The muscles of an organization are like the muscles of a drunk: if they are too relaxed, he doesn't achieve much real coordination.

General Reeder told of an incident that occurred when he was inspecting a budget unit in the field. The budget officer said, "for the first time I can remember, we agree with the budget that we have gotten from the Pentagon. We think that this is the right amount of money that we ought to have." General Reeder told this man, "that makes either you or the man who made up the figures superfluous in this organization. Which one should we fire?" You want people to disagree—that's why you put them in different places.

In our study about the OVERSEAS AMERICANS, we had occasion to comment on the fruitfulness of friction, as it applies to that most difficult aspect of large-scale administration—the headquarters-field relationship.

"A certain tension between a headquarters and its field stations, of course, is not only inevitable, but highly desirable. Utter peace is unthinkable between two parts of an organization deliberately placed so that each can see the organization work from a different point of view, can pick up information unavailable to the other, and can deal with a different constituency. Each unit's management has to understand that its unit is a part of a larger enterprise, and that the way the unit's executives see things is not necessarily the way they should look to the organization as a whole.

The problem is that administrative tension is often increased to a pathological degree by two factors, which are not peculiar to overseas posts, but which seem to be increased to a matter of degree at least, in overseas posts. One is the abnormally long lines of communications; messages are often slow, sometimes garbled, and always expensive. The other factor is that the operation is cross-cultural. Because of this, the geographical distance between headquarters and field is multiplied by a mutual ignorance of the environment in which the other fellow is working. In the government agencies, Washington is full of people who are backstopping overseas missions in countries they have never even visited; and the missions in turn are full of people who have only the vaguest idea what actually happens to a request for action when it enters the mysterious jungle of Washington's interdepartmental clearance system.

A certain bureaucratic tolerance, a low boiling point, and the kind of experience that teaches which techniques work for you and which against you in getting action inside of a large organization—these then are requisites of effective performance overseas as at home.

One typically healthy attitude was expressed by an ICA man in Yugoslavia: 'Our relations between the mission here and Washington are excellent in my opinion. We're pretty tolerant of each other. Of course, there are differences. They probably think we're crazy on some of our requests, but the differences are not insurmountable.' The ingredients are clear: an expectation of tension, plus the ability to win at least some of the resulting fights. It's the people who must win every engagement who never seem to survive long enough to see how the war came out."

The tensions inside an organization should differ from those on the outside, however, in one important way. They cannot be neurotic; their emotional content should be low. People should be able to represent their views vigorously without feeling that their personal security depends on the outcome of each argument about policy, procedure, or jurisdiction. The tensions, in short, should to the maximum extent be *drained of their emotional content*, for that is what makes organization possible. It is what enables the people who have learned to work together inside the organization to act as representatives of all the outside interests mainly concerned, and yet come to compromises and decisions about policy and action that would be impossible if the interests themselves got into a room and tried to work out their differences.

An administrator's key job then, is not to make peace within his organization, but to manipulate the natural warfare in pursuit of the organization's purposes. An understanding of this first law of administration should be the first qualification for executive appointment.

Responsibility to the Public Interest

The second qualification is that every large-scale executive needs to have a feel for the public interest, whether he happens to work in the government or outside of it.

It used to be possible to distinguish the public executive from the private executive by inquiring whether he worked for a "public agency." But nowadays I think it is arguable that all large organizations are in some sense public. The line between what is public and what is private can no longer be drawn between government and nongovernment organizations. The line must be drawn *within each organization*, between its publicness and its privateness.

It is not hard to see how this has come to be.

First of all, private enterprise, trying to avoid undue risk, pulls the government into its affairs as the risk-taking partner. To a Washington audience, I hardly need to go further. Consider atomic energy or housing and urban redevelopment or soil conservation, or the savings bank business. Consider the pleas by foreign investors for more

foreign investment, followed up by detailed plans on how that investment can be rendered risk-free. Consider the business of farming. Consider higher education: A major financial and budgetary crisis occurred on every major campus when Charles Wilson cut back research and development funds by 5 percent just before he left office as Secretary of Defense, because at the margin, everybody was depending on those non-profit profits for which the favored euphemism is overhead."

In addition to the pull from private enterprise, you have a push from government. For the government is presented with two irreconcilable objectives. First, we the people expect public agencies to take on many new or expanded functions all the time, to provide more and more initiative in the economy as a whole. But second, we the people all agree that the government shouldn't grow any further, should not become a bloated bureaucracy. So, government, trying not to grow, freely farms out to private organizations staggering proportions of the public business. Most of our tax collection; our military production; and our industrial research and development is done by private organizations working for the government. A growing proportion, which may reach half before long, of the foreign aid program is farmed out to government contractors.

There is a third reason for this tendency in our society to blur the distinction between public and private functions. The sheer size and influence of many private organizations—of corporations, and banks, and private foundations and universities, too—mean that these organizations are heavily affected with the public interest." Indeed, the public responsibility of large private organizations has come to be a standard article of faith at businessmen's luncheons and other public occasions on which inspirational clichés are duly applauded.

Consider the reaction of all of us to the recent steel strike, in which it was perfectly clear that the two big private groups concerned were by no means all the parties whose interests were at stake. There was—we all felt it instinctively—an empty chair at the bargaining table, reserved for but not occupied by the general public. The issue was trilateral, yet collective bargaining is still, by antique tradition, bilateral.

Consider, too, the ethical dilemmas of the mass media recently dramatized by the case of Van Doren in Wonderland. Both on the government side and on the private side, the responsible executives evidently thought that you could draw a sharp line between "public" and "private" by drawing it between the government and the private organizations. The network people did not (until it was too late) admit the publicness of their function. The Federal Communications

Commission was so inhibited by taboos about "censorship," that it failed to address its attention seriously to the rapidly-growing cultural monster which it was created to watch and to regulate.

What makes a man a public executive is not, I repeat, his affiliation but his attitude. He may be in or out of government, in business or church, or foundation or association. But he is marked as a public executive by his consciousness of a responsibility to the public interest.

But this merely leads to the most difficult question of all: What is the public interest? The American answer demonstrates what free men we Americans really are. For just as the essence of American democracy is that it is not anybody's business to define it authoritatively, so the essence of the public interest is that it cannot be authoritatively defined for any given individual in any given situation, except by that individual in that situation. As in the evolution of law, precedents and precepts are of some help. What was clearly the public interest in some historical situation, where we now know all the facts, may aid in solving tomorrow's similar questions for ourselves, even though most of the surrounding facts are yet unknown.

Wise sayings, from Mencius and Aristotle, the Bible and the Founding Fathers (not to mention our own parents), may likewise be useful, but hardly definitive. With a little help from Bartlett's *Familiar Quotations*, it is too easy to find some pseudo-scriptural basis for whatever one really wants to do. Ultimately the definition of the public interest in each situation is the sole responsibility of each person involved. Everybody is not expected to arrive at the same definition, especially on matters of importance. The disagreements we call politics; or if they are violent enough, we may even call them revolutions.

Since the public interest in social situations is, paradoxically, so intimately personal a decision I cannot give you a series of universal ethical principles, either on stone tablets or in a mimeographed operations manual. I can only tell you the frame that I use in making moral and political judgments about public affairs from day to day. Ultimately I try to relate what goes on in the world, in the Nation, and in Syracuse to the basic wants of modern man. In the oversimplified terms we often reserve for our most fundamental ideas, I see these basic wants as four:

First, modern man wants a *sense of welfare*—a minimum standard of "enough" in material living. How much is enough will vary from society to society and from decade to decade. But at any moment in any society there will exist, even if it cannot be precisely measured, a practical definition of the minimum standard which the society will collectively guarantee to its every individual member.

Second, people want a *sense of equity*—the feeling that they are being treated justly, not as measured by some ultimate standard, but as measured against the treatment accorded to other people in comparable situations. (This does not, of course, mean all others, even in your own society. Nobody in England seems to begrudge the provision in the national budget of a royal income for the Royal Family.)

Third, there seems to be a universal desire these days of a *sense of achievement*—man's feeling that he is getting somewhere, that the group of which he is a part is making progress in some generally accepted direction. For people in organized society, high morale depends not so much on what goals men choose as on their shared feeling of movement toward them.

Finally, modern man wants a *sense of participation* in deciding what these goals will be. He needs to feel that he has some control over his own destiny through taking part in a group or groups which can and do in fact influence the basic decisions on which his welfare, equity and achievement depend—decisions about the state of the economy, the security of the person, the freedom of mind, and ultimately decisions about life and death, peace and war.

Three short comments on these "basic wants." First, they are not of course, statistically measurable, or empirically verifiable in general. They are all "feelings" or "senses" based on vague judgments about the relationship of the individual to society in which he finds himself. Even for a small group at a defined time in a particular place, the judgments about adequacy, equity, achievement, and participation must be rough approximations, not "facts" that can in some sense be proved.

Second, this statement of the basic wants of modern man depends for its validity on an awareness by the individual of his relationship with society. They imply he cares about this relationship; that his attitude is of one seeking to influence his destiny, not passively accepting what fate the gods or his own family have provided in the way of environment. It hardly needs to be observed that this is a new state of mind for most of mankind, dating in the West from the Renaissance and the Reformation, spreading to the East through the colonial governors, district officers, navies, armies, missionaries, traders, and reformist politicians, all of whom stirred up ancient societies by providing new wants to want, and therefore, new enthusiasm for change.

Third, these basic wants are appropriate to an era in which "we don't know where we're going, but we know we are going there fast." Rapid change is the dominant fact of our time, and present problems which people in static societies did not have to face. We know that

an ever-higher standard of welfare is technically possible now—that greater equity can be achieved in a situation of growth. The very urge for a sense of achievement is evidence that change is the expected norm; both our aspirations and our actions are geared to it. The growing desire to participate in decisions affecting our own destiny stems from the conviction that things are certain to change, and that events must, therefore, be influenced in directions that are congenial to us.

If a public executive measures his contribution to society against these basic desires for welfare, equity, achievement, and participation, I think he can be said to have a standard of public responsibility more relevant to the world around him than most of his fellow-executives. But, as I say, touchstones of conduct like these are ultimately subjective, personal, and individual. The fact that each of us has both the freedom and the obligation to fashion his own ethical standards (taking into account the similar decisions of the others around him) is I suppose an important part of what we mean by “the dignity of the individual.”

Optimism About the Future

The American public executive needs to understand the web of tensions in which he is only one of many spiders; and he needs to have (or to develop) a lively consciousness for the public interest. But he needs one other quality, too. He is the man who must offset by his optimism the specialist pessimism of the experts around him. For gloom and reluctance are the trademarks of expertise. This presents serious problems for a society whose success in moving toward its goals is so largely due to the effective division of specialization, to that American conviction that if enough detailed facts are collected about any question, the answer will appear by spontaneous combustion in the dumping-ground of evidence.

I do not, surely, need to draw pictures, for as experienced a group of administrators as yourselves, of what can be commonly observed in your own offices. You know that most experts know so much about the past that they are reluctant to embrace the future. The statisticians, of course, are the usual whipping boys on this subject, because they make their predictions in a form which can so easily be compared to reality later.

I am still impressed with reading in 1945 the Census Bureau's hedged, but memorable forecast of a 1995 population of 164,177,000, the figure we passed 4 years or more ago. They had not learned the lesson popularized by Henry Wriston: “Never extrapolate a curve even on a woman.”

I am particularly struck at this moment, because of something else I am working on, with the attitude of most of the experts on population. It is clear now that there has been an important scientific breakthrough in population control. A good deal of evidence shows that it is going to be possible, through widespread use of oral contraceptives, to make a real difference in the balance of population and resources during the next generation or two. But this new situation does not seem to cheer up the professional demographers a bit. Their well-nigh unanimous reaction is, "Oh, pay no attention to it. We're sure that things are going to be just terrible anyway." We can see the same kind of expert pessimism in the mess our cities are in; in the discussion of mood drugs; in the discussion of the effect of machines in large-scale administration; in economic forecasting; and in the alarmist best-sellers written by popular sociologists.

You have observed that the most specialized member of your staff is often the stubbornest staff conservative. You may also have observed the reason for this: the expert's congenital reluctance to assume that what happens in unfamiliar fields of expertness will countervail against the straight-line projection that he can otherwise foresee so clearly in his own field of specialization. Many experts will admit to being professionally gloomy, but will rest their defense on a need for somebody to scare the daylights out of us, since the rest of us seem to be so unwilling to make ourselves unhappy by contemplating how grim the future could be. The trouble with this self-justification is that prophecies of doom do not in fact move people to action.

We know the potential danger of the H-bomb, but nobody builds fall-out shelters in his backyard except a few people who can both afford them and can make political capital out of them. The Russian bogy has nearly lost its power to frighten us; indeed, the foreign aid program is in chronic political trouble precisely because it is still being treated as an exercise in anti-Russian "mutual security." We like to read about the way "big organizations" are eroding our freedoms, but we don't really believe what we read on the subject. Most of us simply learn how to move around inside big bureaucracies and find that he who learns how to work with bigness can, "with a little bit of blooming luck," have more freedom of choice than ever before in the history of mankind.

No, the half-life of terror is much too short to provide a basis for major programs in public and international affairs. What does move people to action is not fear, but hope—a vision of how things might be improved. You can't coalesce an urban electorate around the charge that there is no place to park downtown, but you can develop

political support for a plan to build some larger and more convenient parking garages.

Here is where the public executive comes in. It is his job to supply in every field that unwarranted optimism that sets the man of action off from the well-documented prophet of disaster. The executive has the best possible reason for believing that things are going to come out all right; he intends to step in and make them come out that way. I once had occasion to ask Jean Monnet, who was the father of the Schuman Plan for a European coal-steel authority, about the origins of that imaginative enterprise. I asked him what experts on coal and steel he had consulted. He said, "Goodness me, I didn't consult any experts on coal and steel. They would all have told me how impossible it was." This kind of unwarranted confidence enables the American public executive to reject the lugubrious comparison of the present with a future that can always be represented as uncertain and therefore to be feared and postponed.

Even if it produces error and miscalculation, the "forward lean" to the public executive's thinking cannot possibly be as bad as the situation already being predicted by the experts around him. He therefore has a certain basis for his confidence, after all. This attitude in a man, combined with understanding of the administrative process and a feel for the public interest, qualifies him to serve in a large-scale organization as the expert in putting the experts together to make something happen.

Being Administratively Effective

What I have been saying might lead the man from Mars to suppose that we have in America two kinds of people—specialists and generalists—experts and executives. But as you well know, that is not at all the way we Americans arrange our careers. To become a general decision-maker in America, in or out of the government, you just about have to climb up a specialized ladder first.

The reason for this is straightforward enough. Most people are apathetic about most subjects—they have to be, there are so many subjects. Francois Rabelais, more than 400 years ago, may have been the last man to believe that he could learn everything important there was to know. But nowadays there is such a great deal to know, and so many decisions to be made, that we all must leave to "authorities" a growing share of our thinking about public affairs. On any given subject the "authorities" who have risen to prominence as specialists and remained to pontificate as generalists on a wide spectrum of subjects beyond their own field of knowledge. These are the members of our aristocracy of achievement—fewer than a million true

opinion leaders, occupying soap boxes which are merely rented for as long as the leader works hard at being a leader. This aristocracy of generalists is relatively easy to reach, but only up the ladder of a specialist career.

But a climb to prominence as a specialist—as lawyer, or doctor, or statistician, or laboratory scientist, or corn farmer, or newspaper man, or even professor of political science—does not necessarily train a man to analyze complex social interrelationships, to understand the nature of large-scale organizations, to think in terms of the public interest, or even to get along with people outside his own professional field. If, therefore, we are to have an adequate ration of unwarranted optimism in our public affairs, we will have to make sure that the most promising people in every specialized field get a chance to practice the art of administration, to develop a feel for the public interest, and to learn the dangers of gloomy forecasting based on 100 percent certainty about one particular trend and ignorance of countervailing trends in other people's specialities.

We will be saved, of course, by the fact that experts have to develop these skills more and more in order to operate even as narrow specialists in a modern large-scale organization. Once the business of the expert was merely to be right; it was regarded as the task of some king or general or political leader to stir his expert views in the proper proportions into the administrative stew. But nowadays, when most important decisions are not made by individuals, but by a complicated process of brokerage and consensus, the expert has the obligation not only to be right, but also to be administratively effective.

This truth was brought home to me in an exchange I had with an anthropologist, at a meeting the Society for Applied Anthropology held in Syracuse 2 years ago. We had held a session on anthropologists and administrators. I had been a little unkind about some anthropologists I had known in the foreign aid business, and finally one man rose in protest at the back of the room. "Look," he said, "I've just come back from a 3-year stint with the Air Force. I've been working there as an anthropologist, and I made a whole series of recommendations, but the Air Force never accepted a single one of them in the whole of the 3 years."

I could think only of the obvious question in reply. "Were you prepared to devote to the analysis of the process through which your recommendations were processed the attention, time, and effort that you would cheerfully devote to studying the puberty rites of a native tribe?"

"That isn't my business," said the anthropologist. "That's the administrator's business."

"That," I replied "is why the administrators are inheriting the earth."

In a world more or less equally divided between men and women, most people get a chance to fall in love early and often. In a world where there is no limit to how complicated things can get, what with one thing always leading to another, nearly everybody will get a chance to fall in love with complexity. Joy be to those for whom this love affair lasts a lifetime. They will be our public executives, and they shall inherit the earth, not because they are meek, but because they are not.

The public executives, who serve us by deciding our destinies for us, are practitioners of the highest form of art, the art of executive leadership. "Arts and sciences," said Michel de Montaigne, "are not cast in a mould, but are formed and perfected by degrees, by often handling and polishing, as bears leisurely lick their cubs into form."

THE INFLUENCE OF SOCIAL TRENDS ON ADMINISTRATION

by

Byron L. Johnson

I always shudder a little when somebody gives me a topic such as the one I have this afternoon, namely, "The Influence of Social Trends on Administration." I hardly know what is wanted and I wait with bated breath to hear what I have to say. But if you will bear with me today, we will romp lightly through history to see if there may not be a few lessons we can learn from the past and from our experiences in the present. Perhaps we can prove that the nasty quip "if we learn anything from history, it is that we learn nothing from history" is false.

What is administration? It's a science as old as government. I suppose that when a community organized for its defense there was a concept of administration—that of military science—in the operation. As man moved from a concept of personal vengeance to one of law, order, and community-administered justice, concepts of administration gradually became more precise, not only with respect to the notion of law, but with respect to the appurtenant activities in our whole judicial and penal system.

As we developed more elaborate structures of government, both for law and order at home and for some kind of peace among communities, we had to have some systems of revenue. So a logic of the administration of revenue developed. This took many forms, from the farming out of tax collections and later crude sales taxes and tariff duties, to the far more complex systems that you and I know today. Man came to recognize that there were certain communal purposes which he wished to see served: for example, the crossing of a river with a bridge, the maintenance of a ferry, the development of docks and warehouses, the creation of public buildings such as courts and jails, the improvement of public roads, and the development of public ports and harbors and all of the other public works



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activities which governments throughout time have found desirable. Man initiated a system of administration to organize and sustain each one of these programs.

The point I stress is that public administration has been viewed historically as administration of subject-matter areas. The concepts of administration which evolved were concepts which appeared to be peculiarly relevant to the particular function being performed, be it public health or the advancement of agriculture. Only in relatively recent times has administration *qua* administration been recognized as a family of concepts—one which enables logic and experience gained in one area to be put to use in another. As a result, we actually deal with a young science not an old one. Public administration is still not fully recognized as an academic discipline. It is viewed as a branch of political science and has been classified with economics and political science as something called “political economy.” Thus, as a self-aware profession, public administration is a new science.

Consequently, we may not have maturity of vision in our education, our writing, and our thinking about this discipline. Nor have we perhaps sufficiently matured in our experience to be aware of man’s capacity for transferring concepts from one area to another. If we have been aware, perhaps we have been too mechanistic in our awareness and not sufficiently sensitive to the elasticity of administrative concepts. If it is *public* administration, it is a *social* science; if it is a *social* science, it is an inexact science. Indeed, I would say it can never completely escape being an art, quite as much as it is a science.

With those brief opening remarks, let me turn to what happens to administration in face of those social trends which have operated throughout history.

Administration by an Elite

Let’s first take the long view, relating the social forces in our own history to administrative changes. Here I must be brief. Therefore, what I have to say should not be taken as a comprehensive or sweeping review of history in respect to administration, but rather as a few highlights. In suggesting these highlights I must exaggerate slightly.

At the outset of our nationhood, we had a “revolution of the aristocracy”—a small, relatively elite group of highly educated, widely read, thoughtful, intellectually-disciplined men were the architects of that revolution. Administration was largely in the hands of the “intelligent amateur.” No one had the opportunity then to become a true professional and the concept of professionalism in the field was unknown. But fortunately we had several men who were truly uni-

versal in their talents—not only Benjamin Franklin, but Thomas Jefferson, George Washington, and others who demonstrated an amazing grasp of the nature of society and of men. All of them showed ability to relate their understanding to the nature of the government whose foundations they laid.

Each year we in the House are reminded of the meaningfulness of that insight by a law which Congress passed a number of years ago. On Washington's birthday, the House and Senate transact no business—they sit respectfully and listen to a reading of Washington's Farewell Address. Any American, especially any public servant, who has not read or reread that document is hereby urged to share our experience. For here is a statement of first principles by the man who, more than any other man in our national life, felt called upon to think through first principles. Experience has taught us to modify some of the tentative judgments he reached; nevertheless, much, if not most, of what he had to say is still of great merit. Washington was one of the "intelligent amateurs," who established the first principles of public administration and who laid foundations on sound bases on the premise that later generations would modify and amend as occasion might require.

The Effects of Partisanship and Patronage

With the growth of the 13 Colonies, the expansion of the nation across the Alleghenies, and the growth of the frontier, there was a rise, notwithstanding George Washington, of a spirit of party and partisanship. With the increasing number of people who were "self-made" and without the benefit of the formal education these earlier Americans had, there came upon the scene the "party stalwart," whose approach to administration was a little more blunt and direct and whose approach to government was increasingly partisan.

As a result of increased immigration, a growing population, and the development of political parties, not only the "party stalwarts" but also the "hungry patronage seekers" came to the fore. I did not originate the epithet; I think many people have already used it. You will recall that Abraham Lincoln's bitter experience with patronage seekers caused him to tell various stories designed to dissuade those people who viewed membership in the winning party as sufficient evidence of their competence to perform a public function.

This development of our national life led to a certain degree of corruption. I suppose the climactic event of this experience was the assassination of an American President, which prompted Congress to pass a very important law—the Pendleton Act—which set forth the basis of a civil service system. This perhaps is the real root, the real parent of the profession of public administration in America. Despite

progress on the Federal level, however, there was great negligence of the science of government at State and local levels.

One perceptive observer of the early eighteenth-century American scene, de Tocquerville in his *Democracy in America*, pointed out the prevailing notion of public acceptance of responsibility for the public's business which motivated Americans in the early years of the republic. As we moved into the latter part of the nineteenth century, however, attitudes changed significantly. As a result, and because of our overweening concern for partisanship and for personal preferment through the abuse of government, which led to so many scandalous situations—especially at the State and local levels, there developed a new kind of journalism and reporting which has been characterized as “muckraking.”

The Influence of Creative Amateurs and Professional Politicians

The “muckrakers” called upon American conscience for the restoration of a sense of concern for the conduct of the public's business. One response in the field of administration was the emergence of what I would call the “brilliant and devoted amateur”—the man who sought public office out of a deep sense of devotion to the public's business and a reawakened conscience anxious to make amends for past venalities. One thinks, for example, of Charles Evans Hughes and Gifford Pinchot, who made magnificent contributions after abandoning, I am sure, far more lucrative personal careers in order that they might give a new sense of leadership and significance to the public life of America at the State as well as at the Federal level.

Along with the “brilliant and devoted amateurs” there emerged a new kind of “creative professional politician.” One thinks of a most unlikely man, a Princeton professor of political science, who was nominated to be governor by the New Jersey bosses just to give the appearance of virtue to the party's performance. The bosses soon discovered that the man whom they had chosen had no intention of being anybody's captive. He was rewarded, as you know, with the presidency of these United States.

A similar man was that great engineer, War Food Administrator, Secretary of Commerce, and beloved President, Herbert Hoover, who set aside an obviously profitable career in business in order that he might serve his Nation not in one, but in many capacities. His career with respect to administration is a study in its own. I ought not be the one to discuss it, but let me say that I am old enough to remember the campaign of 1932. I was starting my senior year in high school. I recall how he was roundly damned for all the new agencies he had helped to create and for that fantastically big building he had erected

on 14th street to house all the agencies that had mushroomed inside of his own department.

In retrospect, most of these contributions to our public life have proven good. We have not abandoned the activities which he helped set in motion. He was beaten in 1932 by a candidate who promised to reduce government expenditures and to balance the budget. I thought it strange that the next two Presidents should call back this man to simplify the government structure—this same man who had been so roundly condemned for all the proliferation he had given it in his day. I mention this because I think the temptation is to look only to yesterday and not to the day before yesterday. If one wanted to examine public administration within the sweep of one man's life, certainly one could have a fascinating time with the life of Herbert Hoover.

But he was a creative politician and so was his successor, Franklin Delano Roosevelt. Roosevelt was given the task of responding more creatively to a wider variety of circumstances than any American President before him. The challenges to Lincoln and Wilson were companion to those to Roosevelt, but the latter was given a full 12 years to Wilson's 8 and Lincoln's 4 years and one month—and there, at least, is part of the difference.

But all these men saw the necessity for government to offer creative response to a changing society, and they did their very best to translate to the people, to the Congress, and to the executive agencies under them the nature of the challenges we faced and guidelines for national response. They evoked from the American people, from the Nation's legislators, and from those who served under them, some of the most surprisingly different imaginative and constructive responses that have gilded this country's history.

These were men—and I might add Theodore Roosevelt to the list—who really helped shape the notion of public administration. They recognized that public administration is really the art of translating law and social purpose into organization and into operation. They helped to make that translation meaningful to all those concerned—their staffs, the Congress, and the people. Indeed, it was Franklin Roosevelt who deliberately sought out the specialists in public administration to reorganize his own office. Some of you will recall that a fine study was made of the Office of the President. It was my good fortune to join the staff of the revised Budget Bureau when it was a few years old—young in its new setting as a part of the Executive Office of the President—and to join it at a time when the challenges facing this Nation were the greatest we have ever known.

Dangers of Legalism, Habit, and Custom

The challenges which face us do not disappear even when met. New challenges quickly rise to take their place. Hence, the need is for constantly and continuously adapting to a changing world. Now this is very hard to do in public administration, because the habit of the administrator and the habit of the student of public administration is to think of administration *qua* administration, and to forget that administration exists for the purposes of a society which itself is in transformation.

As a result, administrators try to develop manuals. I don't even want to talk about that; for that's a lecture in itself. A State Board of Health once assigned me to a brief 4-month tour of duty as an assistant State supervisor of its project for the Works Progress Administration. If I had never seen a manual before or since, those months spent trying to keep up with daily changes in manuals provided me with a lesson in public administration *in reverse* which I shall never forget—and which I hope no other person will ever have to repeat. Having made this confession to you, let me add that I took a special pleasure in doing penance for my sins of helping to waste public funds in the course of that brief tour of duty. The Budget Bureau allowed me to sharpen the knife that was used by the President in administering the *coup de grace* in late 1942 to the WPA. Thus I was given an opportunity that many other persons who served in WPA must have envied me for.

But it isn't just the manuals that limit administration, it's the whole notion of law as an orderly and immutable fabric. You see, in stemming from law, public administration has brought along with it the pretense of being something eternal, something self-contained and beautifully intertwined, something logically coherent and internally consistent—to be added to, but somehow never subtracted from. This is a very dangerous concept—one which unfortunately is too prevalent—in public administration.

In addition to this legal rootage, there is a perfectly human notion that says old ways are the best ways. Since the way we did things yesterday is viewed as the easy way, new and different methods are viewed with suspicion. Let's be quick to admit that we ought not to have to make every decision over again every time it comes up. We ought to be able to engage in repetitive operations when it is to our advantage. Therefore habit should not be totally condemned. On the other hand, slavishness to habit should not be approved. The habits of yesterday may have provided the right answers yesterday, but they might not provide them today. Similarly, law, as a great philosopher and religious leader remarked 1900 years ago, "was made

for man, not man for the law." If we would remember the importance of that very elemental truth, many of our problems in law and justice, as well as in public administration, would take a cleaner and clearer perspective.

I think of *The Legend of Sleepy Hollow* and recall how an early author was able to help people see that in the space of 20 years profound changes occur, even in an area where it was thought that little change took place.

That legend was written a century or so ago in an age that we look back upon as relatively uncomplicated. I wonder what that story would look like in terms of today's dynamic world.

This is 1960. I invite you to think back, not to 1940, but to 1938. Think back 22 years. Picture what America was, what she thought her problems were, and what her domestic situation was. Picture America's image of the international situation and picture the debates on the floor of Congress in support of the Neutrality Act. Then switch back to 1960 and write your own *Legend of Sleepy Hollow*, and perhaps write your own lecture on "The Influence of Social Trends on Administration."

America and the Permanent Revolution

"Every generation," said Jefferson, "is entitled to its own revolution." Indeed, he was very careful in the Declaration of Independence to state that every generation had the right to alter and abolish the form of government and lay the foundation on such new bases as seemed right and proper. Some sportsmen are now worried and writing me that Congress must not deny them the right to keep guns. However, the Constitution guarantees the right of an American to own and possess arms for the purpose of a militia. I suppose this clause was even designed to protect the right of "revolution." So I've been asking these sportsmen, "Now, do you seriously intend to use these guns to take over the government? Aren't you content to use the polling place?" Actually, of course, I do this in more fun than seriousness, because we now know that Jefferson was not only right, but that we have fulfilled his intent.

Every generation has had its own revolution. Indeed, it has had its own revolutions, and I use the plural intentionally. But I use the word "revolution" here not in the sense that we see it listed first in the dictionary, but in the secondary sense of a complete or marked change in something. Every generation in America has known basic, marked, and continued change in some fundamental aspect of its private and public life.

Let's take a look at some of the social institutions which have

been radically transformed since 1776 or 1789. That revolution dealt merely with the relationship of the people to their central government. It was not like the French Revolution, which dealt with everything—with the whole fabric of law and society, with the church and state, with education, with the nobility and the clergy, and with feudal relationships between landlord and tenant. The French have not yet settled down because they attempted to change everything simultaneously. They are in their Fifth Republic and they have also interfered with the republican form of government on several occasions to establish other forms of government. They have had more than half a dozen constitutions since we have had ours—even though their revolution started as ours ended in 1789. We fortunately essayed only one task at a time. The profound success of the American Revolution was that it provided an orderly basis for making change.

We've had the Industrial Revolution—one thinks of the steam engines in the 1830's or the rise of the factory system that started about the same time. One thinks of the outgrowth of huge industrial complexes resulting in the Departments of Commerce and of Labor, the need for which could never have occurred to the Founding Fathers.

We have also had a Financial Revolution or rather, several financial revolutions. After experimenting with a United States Bank, a Second United States Bank, State banks, wildcat banks, National banks, and independent treasuries, we finally, after prolonged inquiry, laid the foundations for the Federal Reserve System in 1913. But, our problems in the 1930's have not even allowed that system to go untouched by further fundamental reform.

The pony express was perhaps the outstanding symbol of our Communications and Transportation Revolution. But the pony express was merely a romantic interlude, intended to last only until the telegraph lines could be brought across the continent. This happened a year and a half after the express started to link the east and the west coasts. Shortly thereafter, we had the first transcontinental railroad. The other day, as I left the shores of Lake Michigan by jet and landed at the foot of the Rockies in less than 2 hours, I thought of how the early pioneers crossed the country, slowly struggling to make their way across the Great Plains, and struggling even harder across the mountains. I realized again that we have had a great revolution in transportation.

Along with these revolutions in water, rail, road, air, telephone, telegraph, radio, and television, have come a host of administrative problems. These problems have not only affected those agencies which specific advances have called forth, but also the operations

and deliberations of every agency which seeks to adapt itself to the new opportunities that these revolutions make possible.

The growth of concentration of enterprise which has been so phenomenal is rightly called our Commercial Revolution. The State to the north of Colorado is Wyoming. Amazingly, the American Telephone and Telegraph Company and its affiliates now employ more people than there are residents in that entire State. We have industrial and commercial complexes in this country that almost defy description in language which would be understood by the Founding Fathers.

Along with this monopoly and merger and trust development have risen other agencies and other responsibilities for administrators to ensure that the behavior of these giant power structures is not inconsistent with the welfare of the people. And again, the operations of still other administrative agencies have necessarily been modified by the necessity of dealing with these great concentrations of power.

As a counterbalance to the growth of business power, there developed a parallel, companion, and partially rival growth of great industrial unions. Labor cannot bargain collectively with an agent at the local level who is at the fifth or sixth echelon of a great national corporation. Labor leaders must sit down face to face at national headquarters with the national chairman of the board, the president, or the bargaining committee of the corporation. Sometimes local strikes are hard to understand because they seem so friendly out in the field, but they need to be seen as test runs of strength between great national complexes which stand in the shadows.

Government must understand the society of which it is a part and must deal intelligently with it. Government must not act on behalf of the public as though it were a third party, because labor and management also constitute a part of that public and have their rights with respect both to the immediate issue in dispute and with respect to the broader general welfare. Government must adapt itself and its administration to the actual circumstances facing society at the time decisions are being made.

Another great revolution which we have all experienced is the Urban Revolution. Thanks to the Department of Agriculture, the State colleges of agriculture and mechanic arts, and the extension centers, we have had an agricultural revolution which has necessitated urban growth. If there had been no other reason for the urban revolution, changes in agricultural development would have been sufficient. Because we haven't needed as many people on the farm, more have moved to towns and cities. The American farmer at one time fed himself and maybe one family in town; now one family in the country can feed almost 20 families in town.

With this urban revolution and the agricultural revolution which has helped make it possible, has come a revolution affecting the role of government and its administration with respect to health, recreation, transportation, education, and housing. I serve on the Banking and Currency Committee and am especially cognizant of the impact that the urban revolution is having upon our public policy, specifically with regard to the revitalization and the renewal of our cities.

America in a World in Transition

Let me turn from the social forces within America to the global forces presently at work, because these, too, have had their impact upon administration in our country in your lifetime and mine. One thinks of the 1930's when we used to hear the shortwave broadcasts of the Italian crowds chanting "Duce, Duce, Duce" beneath the Roman balcony. Or one thinks of the German ranting and raving about the Versailles Treaty and the irreparable damage that had been done the *Herrenvolk*. "*Heute Deutschland, morgen die Welt*," was the phrase which certainly should have alerted us. We sat and listened and didn't quite believe what was happening. We were told that the Germans wouldn't last 6 months if they started a major war. We saw the unfolding of the twentieth-century Fascist Revolutions, in Ethiopia, in Spain, and in Manchuria, but we didn't comprehend, perhaps because we had no wish to be disturbed. Thus we failed to respond creatively to danger at an early date, but instead responded destructively late. History of that era is well known to all of you.

As the consequences of the Fascist Revolution and our failure to respond creatively became clearer, there developed a global feeling that we must organize so that our previous mistakes would never again be repeated. The man who was the Assistant Secretary of the Navy in World War I, and who saw Wilson's dreams of a peaceful world shattered in political bitterness, meanness, and isolationism, called world leaders together and sold them the notion that America must take a leadership role in building a United Nations, not as an instrument of war, but as an instrument for ensuring peace.

One of the glorious experiences of those of us who served in Washington, especially in the Executive Office, during the war years, was our ringside view of the world planning conferences, such as those at Bretton Woods and Hot Springs, where we thought through about the kind of a world we would have when the terrible holocaust came to an end.

On the whole, the world planned well. The people who were leaders at that time deserve our commendation. The only exception was the abortive loss of the United Nations Relief and Rehabilitation Administration. The rest of what we sought to do has in large part

been done—not always in the same measure we had hoped, but in many respects far beyond our hope. Count the number of nations that have been given their independence since 1945 without a shot having been fired—nations of Asia and Africa and elsewhere given their independence at the conference table—and ask yourselves if this has not indeed been a Revolution in International Administration.

We are seeing the death pangs of colonialism at the same time that we are viewing an emerging revolution in international affairs. The same America that verified its isolationism in the 1930's was changed by the end of the war so that in the postwar period it confirmed its internationalism. Last year our Banking and Currency Committee agreed that the American people should invest another $4\frac{1}{2}$ billion dollars in two international financial agencies created at Bretton Woods. This was done with practically no debate by the committee and with only a few minutes of debate on the House floor. When I went home and asked my neighbors if they knew we had invested another $4\frac{1}{2}$ billion dollars ("through the back door", incidentally at the President's request), only one in a hundred knew. Even more surprising, most of the other 99 didn't really care that we had invested such money in international cooperation or they assumed that such action was perfectly natural. What a change!

We have all been caught in the emerging revolution in international affairs and we now accept resulting responsibilities. For example, turn to the Communist Revolutions of the twentieth century. We resisted the fact of the Soviet Revolution for 16 years, and only in face of the tragedy of the great depression and the emerging Fascist Revolution did we face up to the success of the USSR. After World War II we watched what we had hoped would be the liberation of subjected peoples become a new and frightening kind of "liberation"—as millions were liberated into communism. Then on the heels of the tragedies which had beset China for so many years, we saw China in 1949, unhappy with the choice she had, turn to the only other choice available. We saw the emergence of the People's Republic of China and we are now living with the aftermath of that fact.

The administration of a great many American programs at home and around the world have been profoundly modified by the Cold War which has resulted from these events. Some of the early enthusiasm, zeal, and vigor with which we approached the creativity of the last years of the war and the first postwar years has turned to a kind of sullen uncertainty, hestiation, and bitterness with respect to our role in international affairs. This happens because we see events taking place we do not like, and we seem somehow unable, whether in administration or in law, philosophy, psychology, or poli-

tics, to come face to face with these challenges and respond creatively to them. If one does not respond creatively to persistent challenges, one may be driven to respond destructively; and at this state of human experience I can think of no greater risk, no greater potential tragedy that could befall not only our great land, but the whole human race. Destruction can now be absolute!

Along with this negative fact there is a positive fact—a Revolution of Rising Expectations. The people of the world who are not caught up in the Cold War and the power struggle, but who are merely seeking to realize for themselves at long last what we have known since 1776 are busily about their tasks of building new nations and new viable economies. Some of them appear to be almost on our doorstep and some of them behave as noisy young children frequently behave.

We are an old Nation, actually one of the oldest in terms of continuous government under one constitution. We are a little “set in our ways”, and we do not take kindly to arrogant, brash, noisy youth. We might do well to remember our own youth or reread our own history and recall the brashness, arrogance, and noise with which our forefathers proclaimed the radical doctrine that people could govern themselves—during a period when every sensible man knew that nations needed a king. Somehow our Nation survived, and I trust that we will permit other nations to learn for themselves, because people can’t learn any other way.

The Role of Public Administration in Our Changing Society

Revolutions technical in nature and social in their effects, at home and abroad—if the two can any longer be meaningfully distinguished—have influenced public administration. An Electronic Revolution has provided techniques which I, as sort of a low-grade statistician, find hard to fully comprehend. (The statistics which now concern me most are the ones that are published after the first Tuesday in November and these statistics result from other than electronic forces.) Along with the electronic revolution has come a revolution in communications.

As a result of new communications opportunities, public administration faces a demand for decision-making which was unknown even a score of years ago. The Titan missile is built in my district. This missile is propelled by liquid fuel and it may take a half hour or more to fuel it and touch it off. But then you may have only another five minutes before you have lost the opportunity to destroy it in flight—if it goes much longer, what you decide may not matter. I have asked the builders, “what will be progress now?” They answered that they could shorten the countdown period. My reaction

was that I'd like the President to have sufficient time to call the Kremlin and ask, "Did you miscalculate or was that missile fired on purpose?" And also have a little time for a reply. This may sound comical, but think of the sobering implications of this necessity for prompt decision-making.

The Bible contains the prophecy that "what you have whispered in private rooms shall be proclaimed upon the housetops" (Luke 12:3). With the kind of communications we have now, they know in San Francisco what we are thinking about in Washington and what we have decided before we decide it. Their clock may be three or four hours earlier than ours. If jets fly any faster, you will be able to fly westward and arrive before you leave. We have placed very great demands upon our system of communications, but our thought processes aren't any faster. Sometimes our bureaucratic habits with respect to the flow of papers and ideas from the bottom to the top and back again have not adapted quickly or inadequately to the compulsions of the new situation.

Turn to the Medical Revolution of our time. It was a bare 20 years ago (when I was working for the State Board of Health) that we heard about sulfas, a new wonder drug, which might help to wipe out influenza and pneumonia. Then came the discovery of antibiotics, starting with penicillin, and now there is a whole host of these drugs. Now we can almost develop them to one's desires. You tell us what it is you want to kill and we'll just look long enough and work hard enough until we have created the drug that will kill the bug you didn't even know existed.

New practices in surgery have come along with this. You don't stay abed so long. You get up quickly. It's good for you; it's healthy. What this has done to the administration of our public health facilities, of our hospitals, and of our whole health-education services has been profound. We have had new insights with respect to the human being—maybe they are old insights, but they are new because we've got a new word for them—psychosomatic medicine. The first time I heard that word, in 1942, I was in this very hall attending a Group Health Association meeting. A doctor from Johns Hopkins medical school told us that this psychosomatic business might help us understand illness; that the mind does influence the body. That seemed like a very revolutionary doctrine. Actually it may be a very old doctrine, but it was new to medicine. It has had profound impact on the whole practice of medicine. Indeed it is now having an effect in the field of mental health and even in criminology and penology.

Or move from the medical revolution and its consequences for administrative choice-making to the Population Revolution. We've

had more children, and we have had to build schools for them. As these children reach maturity, we have more families being formed, which means more housing, city growth, and finally it means facing all the problems of new burgeoning populations and adapting the administration of rural county government to suburban sprawl. I recall that citizens in nearby Montgomery County some years ago took the lead in pioneering a new development—they created a suburban county which could somehow make the transition from rural to urban status without requiring every little built-up area to incorporate.

As we have more people living longer, we have more aged and consequently we have new problems with respect to their housing, employment, and recreational facilities. As we have more people living longer, we have new kinds of health problems.

I mention all of these revolutions to you because our task in public administration, as it is in law and public policy, is to adapt our society to the demands which these revolutions place upon us. The questions that you and I must ask ourselves as we face this changing world are:

First, why are we here—in this job, in this activity, in this duty, in this agency?

Second, what is it that we are required to do, not merely by law, but by circumstances? Or more precisely, what is it that we should be doing? What should we be doing to promote the general welfare?

Finally, to perform our tasks in administration we must ask ourselves how we can best accomplish what needs to be done in view of these circumstances.

Let me close by reminding you of a few lines from James Russell Lowell (you may know the hymn in which these lines are contained):

New occasions teach new duties
Time makes ancient good uncouth;
They must upward still and onward
Who would keep abreast of truth.

Certainly, you who are concerned with public administration and with doing the best possible job for the American people who are your employers, you should want to keep abreast of truth. You should want to administer the affairs that are given to your charge in such manner that you do keep abreast of truth and so that you let the "new occasions teach new duties."

INFLUENCES OF ECONOMIC TRENDS ON ADMINISTRATION

by
Karl Brandt

When the great honor came to me to give one of the William A. Jump—I. Thomas McKillop Memorial lectures, and I accepted, I was not yet fully aware, as I was to discover shortly thereafter, of the vexing nature of the questions posed by the subject assigned to me. Nor was I fully aware of how little I know about the vast and intricate subject of government administration compared with what I ought to know. However, after committing myself to speak in this Department, where 31 years ago I got my first heartwarming introduction to American Government in action, I began to rationalize as follows: If the second Hoover Commission on Organization of the Executive Branch of Government and its task forces had about 200 members, and in three years of hard work gave its majority views in 600,000 words, this might telescope to more modest and manageable proportions what a fully occupied civil servant on leave from a university may be expected to contribute in less than one hour.

If I had some consolation for my inadequacy, it was my familiarity with government administration in some countries of Europe. It has given me an opportunity to compare different ideas, traditions, and practices and their relative strength and weakness on both sides of the Atlantic. It has also been helpful during my present service as a member of the three-man team of economists that advises the Chief Executive on the administration of the United States.

One's capacity for judgment and appraisal must ultimately rest on the opportunity to compare. Having become an American citizen at the age of 40 may also give me a better grasp of America and its government than if I were a native son and prone to take most of it for granted.

Strangely enough, the phenomenon which I am supposed to appraise and weigh in its impact on government administration,



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namely, "economic trends," has puzzled me at least as much as does administration. Both have one thing in common: they deal with tomorrow on the basis of yesterday and today.

Some Questions About Trends

Taken literally, the term "trend" belongs in the vocabulary of graphic illustration in modern statistical analysis. It was introduced some 50 odd years ago as the long-term component of a time series of data—as distinguished from regular "seasonal fluctuations," or periodical "cyclical fluctuations" of several years, or entirely irregular random fluctuations caused by such extraneous factors as major wars—or incidentally—major nation-wide strikes. By eliminating the three other components, this so-called "secular trend" can be determined as a historical record of the course of economic events from the past to the present. It is a popular assumption that once it is laid bare it can be projected into the future, indicating the direction of economic developments and the range within which the economic data would fall with a certain probability.

If this belief were justified, it might be concluded that economic projection techniques have not only simplified, but made vastly more efficient the process of shaping the administrative execution of public policies. Indeed, it would follow that formation and implementation of policies have come close to being a science rather than a craft or an art. However, as I read the evidence, there is no justification for such assumptions about the reliability of projection techniques.

The use of graphic and statistical concepts, such as "trend" and "probability," is adopted as a mode of thinking in an endeavor to lift the veil that hides the crucial details of the economic future from man's finite cognition. History in general, and economic history in particular, is not what hits people as a predetermined cyclical sequence of events, subject to a small margin of deviation. It is the complex result of private and public actions and policies for which persons in private and public life are individually or collectively responsible. If we deny this, we deny much more than the concept of economic policy. It is certain that, in the economic area as in other spheres of human action, future events are to a certain extent based on conditions and constellations of major causational forces in the past. But it is equally true that they do not necessarily follow well-defined repetitive patterns. The patterns that can be observed are far too vague to be used as unequivocal guides of private and public policy action.

This is not to say that historical analogy judicially applied may not be helpful in trying to anticipate the general character of future events, or even to divine, in qualitative terms, their potential range.

But there is no guarantee that reliance on such scientifically enlightened conjecture alone may not be misleading, and hence potentially dangerous. Trends may continue for long periods in the same direction. Yet, despite such behavior, they may change course at any time, doing so gradually or abruptly—temporarily or for long duration. In fact, an abundance of up-to-date evidence hints that reliance on trends often misleads exactly in those crucial situations in which it is most important to be right: at turning points, or when the economy begins to meander. Needless to say, the forces making such alterations in the direction of economic development may emanate not only from economic sources, but also, and most upsettingly, from social, political, or military spheres.

These observations may appear to many members of this distinguished audience as being too critical or too conservative, and perhaps even unjust in their evaluation of the remarkable progress that has been made in data availability, statistical techniques, and the technology of computational devices and analysis such as the use of higher mathematics, electric computers, and photoelectric digesters of instant sample censuses. However, full appreciation of all these gratifying advances must not divert us from recognizing that we cannot rely on statistical trends to continue unchanged or to change only in determinate ways. We cannot know in advance when established trends are going to “jump the tracks.” In order to indicate why I consider this fact important enough to dwell on, I want to cite some evidence for the necessity of abandoning the mischievous fiction that future economic conditions can be predicted, even in the qualified way in which mere projections may be viewed as predictive.

Some Past Predictions

In the thirties belief in the predictability of future economic trends persuaded some of the most prominent economic policy advisers of this country, Great Britain, and quite a few other industrial countries, that the American economy, and perhaps the economies of all industrially advanced countries, had reached a stage of maturity. It was argued that in the context of slowing population increase (or actual population declines), a closed geographic frontier, and an even more limited technological frontier, such a degree of capital saturation had been reached that future growth could be attained, if at all, only by a large-scale shift to public investment financed by public debt. Moreover, in this setting, it was said, social justice demanded a sharp redistribution of income and heavy corporate taxes including a levy on undistributed profits.

To an important extent the economic maturity or stagnation thesis for the United States relied on population forecasts, which

showed a continuing decline in the rate of population growth, culminating in a peak population of something like 145 million by 1960 or thereabouts, followed by a gradual decline thereafter. As you know, we are reaching the 180 million mark this year and are assured of further rapid growth for the near future.

Two most competent and conscientious pioneering scholars of great merit in the Department of Agriculture, who happened to be highly esteemed friends of mine, L. C. Gray and O. E. Baker, reached the conclusion 40 years ago that, based on their forecast of population growth, in 1952 the nation would need some 48 million acres more of cropland than in 1919. As it turned out, next to none were actually added, despite a population increase which was 15 percent larger than the two scholars had foreseen, and the extraordinary increase of actual output for war and postwar requirements.

A popular, yet largely unfounded, assumption holds that because, in contrast to producers and laborers, consumers are not organized, they have extremely limited power to determine the course of events in the markets for goods and services and thus do not effectively allocate resources. Or, the cogency of the sovereign will of consumers may be admitted and the assumption made that their actions can be quantified with accuracy for 12 to 18 months in advance. However, the miscalculations of the best business forecasts that money can buy are sufficient proof of how untenable such views are. In 1934 the vice president in charge of research at General Motors, Mr. Kettering, made a forecast of the number of motor vehicles that would be in operation in the United States by 1940 and by 1960. His estimate was the highest of any pre-war estimates. Yet, it undershot the actual number of motor vehicles by far. His forecast of 42 million vehicles for 1960 was passed in 1948. In recent years the market research departments of the leading companies of the automotive industry have erred in their projections by up to 1 million cars within 1 year.

The National Resources Planning Board, which in the thirties also based its work on erroneous assumptions regarding population developments as well as farm and mineral resource needs, underestimated future productivity and price changes so badly in 1942 that it set as a target for post-World War II years the objective of "maintaining the national income at \$100 billion a year." In 1946 national income was \$181 billion, in 1948 over \$223 billion.

I recall discussions in this very auditorium during the late thirties, in which it was a point of serious debate whether within a decade our agriculture could be expected to attain cash receipts from farming of more than \$10 billion a year. By 1945 income passed \$22 billion and 3 years later, \$30 billion.

In 1945 a North Central research committee of well-known agricultural economists plotted the then current trends in agricultural land values alongside the values during and following World War I. The result indicated that there was little in the long-run outlook to justify land values as high as those in the fall of 1944. The committee suggested the possibility of preventing a further rise by using resale-gains taxes and mortgage credit control. Their forecast failed utterly to anticipate a rise in land values by more than 130 percent that has taken place since then—amounting to something like \$75 billion.

The countries of the European Economic Community and their top-flight economists have had similar grievous experiences with projections that failed to come true. During the industrial boom of 1956-57, industries were urged by private and government analysts to secure enough coal by long-term contracts with American exporters. By 1959 they had so much coal piling up at pitheads that American coal imports were cut down severely at the price of the heaviest contract penalties. Similarly, world oil and gas markets have veered into an unexpected surplus situation and price weakness is the order of the day. The world market for tanker tonnage, contrary to expectations, has experienced a severe glut since 2 years after the Suez crisis, and the same applies to the market for ocean cargo vessels.

As one of the almost daily users of a multitude of projections and trend-analyses, which I presume to be the best this country has at this time, I relate these selected instances of unsatisfactory results with malice toward none, least of all those who have contrived and sharpened our analytical tools, and who toil with imagination and hope to make better projections. In fact, if those who erred should need a good defense, I believe I could provide it. I do not argue against proper use of projections, but against relying too much on them.

Some Fundamental Considerations

What I have said so far leads to the discomfiting and sobering conclusion that government policy makers and administrators cannot simply and safely rely on the stability or predictability of trends in national economic affairs. Indeed, faced by the vitality and adaptability of the gigantic economic organism of this Nation, including its 180 million resourceful and extremely well organized people, government administration today requires far greater understanding, insight, and alertness to change than ever before. The techniques of projecting or predicting economic variables are and always will be a pseudo-scientific exercise, and their results can be helpful only if used with the skeptic caution they deserve.

Implicit in the impossibility of forecasting the economic future with any accuracy is the logical proposition that the economic realm is not a predestined or preordained process of nature. Rather, its antithesis is true: economic reality belongs to the realm of action by man, the *zoon politicon*, endowed with reason, free will, and the power to make decisions, with rational as well as emotional motivations, as an individual or as a member of competitive organized societies, and with responsibility for all actions.

While their main energies are dedicated to economic action, and though the American people are securely established in their enormously productive, well-organized economy, they are not primarily concerned with the production of goods. This real concern is man's spiritual assignment on earth and his duty to serve in its fulfillment.

However, in order to avoid the temptation in many economic discussions to shift the center of gravity from human affairs and therefore moral philosophy to such material concerns as the production of goods, it is mandatory to reaffirm some of the ends that bind the individual people of this country into an indivisible Nation. I hold that the philosophy which prevades the American economy is inseparable from the Nation's moral, social, and political credo and its values. The economy is motivated by ideals and guided by a deeply ingrained social conscience and sense of responsibility. Its underlying philosophy is thus the antithesis of materialism and historical determinism. In a nutshell, this orientation rests upon ethical and, more specifically, in deeply rooted religious convictions and traditions. In the center of our society stand its individuals and their values—not the government and its power. Among the values, respect for human dignity and, as an essential prerequisite to it, freedom, justice, and equality before the law stand out above all. On these values rests the conviction that free men are more productive in their work than slaves, and that the freedom to use their creative minds is a prerequisite to their full social contribution. At the same time this freedom is the opportunity to develop more fully the moral, intellectual and aesthetic potential of the human person. Therefore, society is duty bound to broaden and increase opportunities and to extend them to all citizens. From this it follows that all citizens have the duty to serve the commonwealth by making their optimal contribution to the social product of goods and services according to their talents and abilities. They further have the responsibility to search for and find the niche where under the incentives formed in the market, and the "package of conditions" they prefer, they can make their best contribution.

What distinguishes the political and social setting of the American economy are: its dedication, as an open and pluralistic society, to social mobility and change; the profound optimism that with sufficient devotion to the task, pestilence, poverty, and insecurity will be conquered; and the acceptance of individual responsibility in hard economic endeavor as moral obligation. Within this conceptual framework of political and social ideas, the chief institutions are private property in the means of production, including land, mortgage credit, competitive markets with freely moving prices extending over the greatest free trade area of the world; free enterprise; insurability of risks, including social insurance against unemployment and other hazards; and, above all, the pervasive principle of free economic choice especially in regard to occupation or profession, as well as freedom of entry to, or exit from, any business enterprise or other economic pursuit.

The evident fact that this system is pragmatically far from being pure or perfect does not negate what I said. But imperfection poses its problems, such as the enforcement of laws for the maintenance of competition, and the amending of laws for checking excessive use of economic power. Indeed, it is one of the great assets and guarantees of the unparalleled success and continuity of the American economy that its basic institutional setting is considered by the elite of citizens as an inevitably imperfect arrangement and a practical compromise between partly competitive ideals. From this recognition derives the conviction that the legislative framework requires continually careful study and wise amendment without, however, sacrificing the basic principles of its underlying structure.

Managerial initiative and risk-bearing decisions in our economy are decentralized in approximately 9 million private enterprises with high natality and mortality rates. In this structure the economy is dedicated to the service of the civilian consumer. He, in turn, uses his \$335 billion disposable personal income (in 1959) as he sees fit, and thereby exercises his command over the allocation of the Nation's natural man-made, and human resources as well as the major part of capital formation.

Some Past Trends Reviewed

Having said this much about some basic characteristics of the extra-ordinary dynamic strength of the American economy, I want to turn to more fundamental economic "trends." I refer to the gradual shift in the Nation's mood and its dominant thoughts on economic policies. Again, merely aphoristic hints can be given.

A glance at the course of economic events in the Western world since the Napoleonic wars, and particularly since the abolition of

the corn laws (import duties on bread grain in England) in 1846, and in this country since the end of the bloody war that save the Union, suggests that the complex social and economic ideas of nations shift somehow like a very long, slow-moving pendulum, swinging from one extreme to another, but reducing gradually the distance traveled between them.

To illustrate more precisely what I have in mind, let me sketch very briefly certain developments since the days preceding World War I. The year 1914 ended the longest period of economic stability Europe has ever seen. Until then few countries of the world required passports. The major currencies operated under the gold standard. In all leading countries many citizens carried gold coins in their purses. With this sort of international legal tender they could travel and buy whatever goods, services, or real estate they wanted almost anywhere. Capital moved freely. So did trade, regulated only by moderate customs duties fixed for long periods. Goods could be sent freely by parcel post throughout the world. Inflation or currency devaluation was confined to remote areas.

Although the best generals figured early in 1914 that—due to the enormous advance in weapons since the Civil War and the Franco-Prussian War—a new conflagration could not possibly last more than a few months, this military trend projection miscarried disastrously. World War I lasted over 4 years. It brought with it, after 3 years, the first economic planning for raw materials, food, railroad transportation, and maritime shipping ever undertaken. Economic planning then was not a fiscal, monetary, or financial affair, but chiefly the securing of command over physical supplies of goods and services.

The demobilization and the international emergency food programs that followed the armistice involved similar planning. But with the imposition of reparations a new phase of national and international planning in finance and foreign trade began. The victorious Allies faced deflation. Germany, on the other hand, went through a 5 year period of monetary inflation that ended in the total destruction of her currency in 1923. This had the result of preparing a revolution of nihilism among the middle class with abhorrent delayed psychological and political results. Three more violent 5-year periods of prosperity, depression, and regimented recovery contributed heavily to the catastrophe of World War II, which in spite of monstrous advancement in war technology lasted 6 years instead of 4.

From 1923 to 1928 the financial reconstruction of Europe, as it was largely improvised by American banks, created a short-lived prosperity. It collapsed in the fall of 1929. Simultaneously the

American stock market crashed. What followed was a drift into a desperate struggle against depression and unemployment. Beginning in 1928, the prices of farm products and of industrial raw materials moved in a disastrously steep and long descent. In Italy, Germany, and gradually in other countries this led to an unprecedented era of peacetime planning for the civilian part of the economy. In Canada, the United States, Australia, Argentina, Brazil, and other countries, it ushered in the cartelization of agricultural commodity marketing. The year 1929 saw the Federal Farm Board experiment, commodity stabilization corporations, and production and marketing restrictions operating in the western world.

As the industrial depression spread, each country tried to protect itself within its four walls by restrictions on trade and excess production. In Europe sharp deficits in the nations' balances of payments led to foreign exchange controls by which the note-issuing banks tried to protect the currencies by suspending their free convertibility. This in turn brought into play all the trade and business-repressing devices of import quotas, licenses, and capital export embargoes. Attempts to balance budgets by levying more taxes brought more price deflation, more bankruptcies due to increased weight of debts, and more unemployment. Mass unemployment then converted economic malaise into political friction, turmoil, and dictatorial planning.

In 1933 the World Economic Conference in London collapsed as the United States, following the British precedent of the devaluation of the £ Sterling in 1931, unilaterally devalued the world's leading currency, the dollar. Partly because of the failure of western countries cooperatively to restore orderly economic intercourse, this country faced further years of desperate struggle for recovery. Meanwhile, the world order outside the United States deteriorated.

In this country public planning, the cartelization of agriculture with an attempt at production restriction and price fixing by government fiat, easy money, greater power of the Federal government, and tendencies toward economic centralization gained momentum. At the same time the institution of many necessary economic and social reforms indicated a shift toward more reliance on governmental administrative action and less dependence on private initiative. Similarly, in dealing with energy resources more emphasis was placed on public development and ownership, particularly so since oil resources were appraised as being so limited that they would last at best for a few decades.

British economists like Keynes and Beveridge had a strong influence on the course of U. S. economic policy. Yet, by the summer of 1937, after years of deficit financing, large-scale public works, cheap

money, and incisive institutional reforms, the American economy, far from having reached anything like full employment and a new phase of self-generating expansion, had begun a new recessive movement. It was then and there that many prominent economists expounded the *philosophy ex-post* of "maturity," stagnation, and decline. They concluded that only government could break the congestion. This latest version of oldest Marxian doctrine infected the public opinion and mood with grave doubts about the viability of a predominantly private property economy. Fortunately, it left many leaders in business and farming, and not a few economists, unconvinced.

All this changed overnight with the war. That armed conflict, in which our basic values were at stake, was conducted and won not only with the inevitable aid of over-all government planning of supplies, priorities, and allocations, but chiefly by giving the private economy demand and price incentives in lieu of the peacetime production controls characteristic of many prewar agricultural and raw material markets. In the mid-thirties it had been officially asserted that rugged individualism had in the past not exported wheat, but in reality had given away precious inherited soil fertility, and on top of it had washed a good deal of the remainder into the Mexican Gulf. The film "The River" dramatized this on behalf of badly needed soil conservation. But by 1940 this sort of argument was put into mothballs, and soon far more wheat was produced, and far more was exported. With the vigorous economic growth achieved during the War, the whole political-economic climate began to change. The trend of the public mood on economic policy altered its course.

Whereas in the thirties there was a decided drift toward greater equalization in the division of a limited social product, the forties brought a new determination to see that it increase through economic growth fed by a rise in productivity resulting from innovation, new technology, rapid depreciation allowance, heavy new investment, and better management. If the thirties were dominated by a drive to achieve greater security, particularly security against the worst effects of unemployment, the forties saw the accents shift to opportunity—even at the price of some increase in personal risk. However, these new goals included an insistence that growth should be more balanced and therefore be sustainable in its rate. If the wild speculative boom of 1929 with its bust and its wake of years of depression had engraved one lesson on the public mind, it was that such excesses must be avoided and that the objective must be growth with stability.

The proud performance and stupendous power of the economy that secured the military victory against the odds of a "too little and too late" strategy gave renewed faith in the great future and health

of the free market system. Six years of dedicated work in fields and factories with full employment and beneficial results rekindled the faith in economic expansion everywhere.

How powerful was the change in economic thought was best seen from the Employment Act of 1946, which, significantly, was adopted under a Democratic administration. It speaks succinctly of what the Congress then considered as the essential foundations of the American economy:

"The Congress declares that it is the continuing policy and responsibility of the Federal Government to use all practicable means . . . to coordinate and utilize all its plans, functions, and resources *for the purpose of creating and maintaining, in a manner calculated to foster and promote free competitive enterprise and the general welfare, conditions under which there will be afforded useful employment opportunities, including self-employment, for those able, willing, and seeking to work,* and to promote maximum employment, production, and purchasing power." (Italics added)

Recent Trends Reviewed

But with this momentous change there began also a reversal, particularly since 1953, of the former trend toward centralization and growth of Federal power at the expense of State and local governments. With it came a successive withdrawal of the Federal government from the ownership and operation of business enterprises.

Combined with these changes was the strong determination to use monetary, banking, and fiscal policies, as well as the timing of public procurement, as active stabilizing aids. These, along with the built-in stabilizers, such as unemployment insurance, are relied on to mitigate the impact of economic contractions, as well as to keep in check the over-acceleration of business activity in periods of expansion. While in the thirties it was often assumed that the economy formed too much capital, the high rate of growth in the fifties brought to the fore the problem of achieving a higher rate of capital formation. In this connection, policy discussions about tax reform have seriously turned around the question of lower corporation taxes.

Other encouraging signs in the postwar period have shown that important lessons were learned from the tragic experience of the inter-war period. Instead of the haphazard, mostly private, economic restoration of Europe after 1920-28 and the hasty retreat after 1929-30, the U. S. Government this time did a most remarkable job in reconstructing Western Europe and Japan, and simultaneously world trade and investment. At the same time it also built a new system of mutual security.

The latest and most heartening series of policy actions since 1945—for which the foundations were laid at Bretton Woods during the War—has occurred in the reconstruction of stable currencies and the fight against inflation in this country as well as in Europe, Latin America, and other parts of the free world. It is my conviction that during the crucial decade 1948-58 a truly new era of economic policy was ushered in and prospects are good that it is here to stay—a new era of stability and free convertibility of currencies, with abandonment of quantitative trade restrictions, a gradual lowering of tariffs, and self discipline in fiscal and credit policies by a majority of free world nations.

For our discussion, it is essential to realize that these trends in economic thought and policy affect government administration profoundly: not only because they affect those other trends mentioned earlier, such as national income, employment, the rate of growth, and economic stability, but even more so because they redefine the areas of government action.

Implications for Government Administration

What do these epic changes in economic policy within the last decade mean for government administration? If such enormous changes and dynamic shifts occur in so short a span of time, government administration must have at its disposal an extraordinary alert, intelligent, well-trained, senior *civil service*. That service, particularly in its higher echelons, must be not only professionally competent, but intellectually resourceful and curious enough to be well informed on major developments and to sense the needs for action. In order to be of real service civil servants generally, no matter what their special competence, must be more interested in *alternatives* for administrative action and their relative merits than in “the” solution. They also need imagination and flexibility. This is stated easily enough and yet it is one of the most complex and difficult problems in a viable democracy. There is no singular pattern or specific arrangement that guarantees success. All democracies are struggling with it with varying degrees of accomplishment.

To build and maintain such a civil service is, first of all, a matter of the performance of the educational system, particularly at the college and university level. With reference to economics, it is implicit in what was said before: the fullest comprehension of the moral, political, and institutional setting and of the ends sought in our society is as important as the specialized knowledge of particular means. Unfortunately, the hard and exacting demands of competence in special fields in economics, plus statistics and more and more mathematics, tend to operate at the expense of a broad grounding in

areas of general economics, or in the very important border areas of political science, history, logic, and elementary law. The latter fields would help train minds a great deal in such matters as the structure and origins of our public institutions, rules of evidence, and the concise expression of relevant thought and argument.

However, the vast system of public administration of the Federal, State, county, and municipal governments of this country is a going concern. As such, it is itself a vast educational and training establishment. Hence, it is crucial that its ranking officers should be just as concerned with the development of the talents, knowledge, and skills of its staffs, and with policies of promotion according to achievement and excellence rather than seniority, as are the managers of private concerns.

However, the dangers of aberration, deterioration, wild growth, or decline are as inherent in government administration as in any other human organization. To see such contingencies clearly at all times is a prerequisite to keeping an administration healthy and in good trim. I do not hesitate to touch on some of these, even at the risk of discovering the obvious.

Once a civil service agency has grown beyond infancy, there is a temptation to recruit its additional personnel more or less from within or through co-operation by the existing staff. This may secure smooth operation based on conformism, but it also tends to lead to intellectual inbreeding and clannishness. Diversity of background, origin, and training tends to strengthen the quality and capacity of work on economic problems.

The best antidotes against intellectual inbreeding, the falling into dead routines, or a fading of the sparks of imagination are lively working contacts with academic institutions, private research institutes and organizations, and in general with creative professional minds at home and abroad. This exchange should work in both directions, because professional people, both those outside the government, and those within, will gain by mutual exposure to each other's thought and experience.

As to the training of an elite of able policy advisors and executive administrators, I have always found great wisdom in one special feature of the time honored British system. It consists of assigning the civil servant for successive periods of 1 to 2 years to various special agencies of the government, just long enough to give him a thorough grasp of the nature of the problems, the methods used, the policies pursued, but not long enough to become a specialist. This widens the horizon, engenders broadmindedness, and facilitates co-

operation with other agencies. To my knowledge, no other country has ever copied it, despite the excellent results in Britain.

Irrespective of the size of an administrative agency, usually a core of a few personalities, and not seldom one single executive, sets its standards. Against the deadly bacillus of poor morale in government bureaus or departments, the most effective immunizing influence is an *esprit de corps* which is a natural product of leadership. Nowhere could it be more needed than in economic affairs. Leadership, however, is largely a native gift of temperament. It seems essential to recognize its importance for a bureaucracy.

However, leadership of senior civil servants is frequently the *casus belli* between the legislature and the executive branch of government. To function properly an administration must enjoy the confidence of the legislature in its efficiency, adequacy, and fairness. Such confidence must rest primarily on facts, but it can be cultivated also from both sides.

In general, it is difficult to bring any organization from modest beginnings to high performance and eventually to excellence. But it is far more difficult to keep such a level over the years, once it is attained. Government agencies are not immune from decline in effectiveness.

One of the worst dangers, as I see it, lies in unlimited growth of administrative agencies. In a country as big in area and as populous and wealthy as ours, this is a tendency hard to guard against. To keep an increase in bigness in check requires the strictest control over appropriations by the legislative branch of government, and the iron determination of wise executives to keep a vigilant eye on any demonstrations of Parkinson's first law. Bigness in itself is an inevitable cause of red tape and inefficiency. It further aggravates any other defects that may develop in administrative performance. It leads to more and more division of labor among more and more specialists for smaller and smaller areas of knowledge. While this helps in industrial production, in public administration it tends to lead to extreme rigidity, the need for more and more difficult coordination, or what is euphoniously called "harmonization at higher echelons." This in turn kills the initiative and *elan* of the specialists and makes a machine of what should be a team of colleagues.

There are several remedies against the disease of administrative *elephantiasis* with reference to economic matters. The first lies in the hands of the legislative branch, and consists of writing laws that are simple to execute, and of keeping Federal economic actions to that minimum that is compatible with the economic well-being of the Nation. This of course goes back to the common sense and under-

standing of the citizens who in their enlightened self interest must refrain from demanding more and more benefits from the Federal government. They must outgrow the idea that the body politic can get from the Federal government a great deal for nothing, or that the additional benefits can come from more efficiency in government. An administration that is alert to the danger of its unlimited growth can do a great deal to enlighten the public on this subject.

If decentralization is one answer, it means leaving to State and local government all tasks that they can perform effectively, and to private business all tasks that it can perform well. The principle of localizing costs where benefits are local adds weight to the argument for decentralization.

In order to reduce unnecessary growth it might be worthwhile for government agencies to conduct a self-examination with the aid of competent management research and auditing companies, as some of the best industrial corporations have done.

But decentralization can go still further. A great deal of work on economic research or other investigations can be farmed out, for example, to the many privately endowed, non-profit research agencies which would make their resources available. And there is an increasing number of private business or non-profit organizations that do the most complex studies on contract. The use of contracts has the advantage that one subject may be treated by two or three independent contractors simultaneously. This will be on balance far less costly than the do-it-yourself arrangement, and will often yield better results. I understand that the Department of Agriculture has made increasing use of contracted research. This impresses me as timely and wise.

The tendency to bigness is inevitably connected with those areas of administration where the government is actively intervening in the market economy and, as in the case of price stabilization of farm commodities, is actually engaged in large-scale business transactions in all States. This is an element of economic dirigism within our market economy which has enlarged the assignment in the size of the administration far beyond what it otherwise would be.

Bigness is not only an impediment, and a cause of exorbitant costs to all taxpayers, but it has serious political implications, because it creates a growing number of jobholders whose vested political interest may be in conflict with the interest of the Nation.

Another dilemma is that the more complex the administration of economic laws becomes, the more power is vested in the professional civil service, particularly when it has a high efficiency. This can easily lead to serious friction whenever a change in policy looms. Many slogans in different European countries refer to this. A Ger-

man slogan says: Secretaries come and go, Under-Secretaries stay! There the under-secretaries are chiefs of the professional civil service with permanent tenure. European political scientists point to the often massive political problem this creates, with the nasty technical term: "bureaucratic sabotage." Fortunately, this country has never—to my knowledge—faced such situations, although the former Secretary of State, Elihu Root, spoke gently of "unwilling subordinates" who even in this country can negate policy making by a President.

But in the United States something looms for the economic aspects of administration that is not entirely academic. If the administrative economists should adopt the widespread practice of their pedagogue colleagues and express themselves, in major policy papers as elsewhere, in mathematical equations rather than words, administrative prerogative would be reinforced by recourse to the professional recondites. The point may be reached where neither the politically appointed executives nor the legislators could exercise their constitutional powers, which are intended to be separate but not mutually ineffectual. This is a serious matter, since any obscurantism and any retreat from public accountability by the civil service cause distrust of people against their government, and of the legislative branch against the bureaucracy. There is no reason why the discussion of economic problems and policies cannot proceed in common language, and every reason why it should. There is no place in our society for what the Russian people call with resigned futility the "*apparatchiks*"—the technical planning specialists who operate the planned Soviet economy and are immune from questioning because they alone know its secrets.

Moreover, in the American system of government the bureaucracy must not maneuver itself into the position of paternalistic decisions that encroach upon the inalienable rights of people. In an increasingly effective economic administration, there lurks eternally the temptation to know better "what is good for other people" than do the people themselves.

But let us suppose that all such dangers are kept in check and an administration with a top calibre civil service is on duty with devotion and within the proper bounds of legitimate exercise of the executive power of government. Where lies the crucial area of its administrative functions in economic affairs?

This seems to concern above all the constant vigilance that specific measures of assistance, aid, support, regulation, or correction of economic processes do not unwittingly distort or damage the basic structure, motivation, and incentives on which our economy depends. The need for this vigilance is present and real. We all must realize

that the government itself cannot make the economy grow, except for a limited emergency period, and at the peril of an early decline of the true sources which nourish growth.

Yet, for growth and stability the administration has most important functions to perform; *first* among them is that of conducting the public household so as to protect the integrity of the currency. This alone is a most important prerequisite to sustainable growth. Debt management and fiscal policies will have to contribute equally to the goal of economic stability. *Second* is the maintenance of the faith of the people in the fairness and justice of the economic system and its rules. This great moral asset can be lost in the process of continual inflation. But can also be seriously affected by excessive use of administrative power and enforcement of economic restrictions, by ruthless and unreasonable use of eminent domain, by insufficient safeguards against dangers to public health, or by serious maladministration within the area of almost any other legitimate economic concern of government administration. To avoid this danger requires profound respect for this greatest of all treasures of any nation. This respect should be the lode star of good economic administration.

What Is Needed?

Let me close with a few remarks about the state of economic administrative affairs as I see them, and in particular about the measures which seem necessary to counterbalance some of the jeopardies I have mentioned. The American economy in all its parts displays an extraordinary vitality—power of expansion and innovation which bespeaks a wealth of good organization and self-sustaining resourcefulness. It is served well by a vast and, by and large, reasonably well-performing government administration at the Federal, State, and local levels, all of which have a long honorable tradition and great opportunities for continual improvement in organization and operation. Many of the weaknesses in organization, which are partly the cumulative results of defective or maladroit legislation, or simply the results of the enormous size of agencies, have been compensated through a splendid spirit of interagency cooperation by highly accomplished civil servants—something that makes government work in Washington such a pleasure.

That the administration has been able to cope with the rapidly changing economic trends has been facilitated by a development during the last three decades which I consider as the greatest progress in economics in this country. Public spirited, leading citizens in the business community, including farmers, have formed economic study groups and research organizations and have begun to consult with economists in order to explore public policy problems. This has

brought new contacts, new insights, and mutual respect between the men of action and the scholars. It also has brought extraordinary auxiliary volunteer forces into supporting action for the legislative and executive branches of government.

I mention only a few of the civic groups I have in mind: the Committee for Economic Development, the National Industrial Conference Board, the National Planning Association, the Machinery and Allied Products Institute, the American Enterprise Association.

It is my considered view that the main body of economic knowledge, comprehension, and experience that makes our economy tick never reaches the print on paper. It is the live intellectual capital in the minds of all those who operate the enterprises. These men and women are often by nature doers, not writers; many of them are not interested in dispersing this precious capital of experience and knowledge among all competitors. Hence, there is only one way of getting access to this vast treasure that dwarfs the economic literature, namely, through friendly discourse with the men whose brains are the treasury of managerial wisdom and experience in an atmosphere of mutual trust, respect, and benefit.

Having been accorded the privilege of participating in research and policy conferences of some of these organizations and having transplanted the idea, as an emissary of one of our great foundations, into the European scene, I feel that the wealth of creative policy thought contributed by these civic-minded groups has been one of the greatest windfalls to our administration.

Added to this system of administrative auxiliary forces—throughout the country—must be the economic analysts and commentators of the national journals, the press, radio, and television. Many of these lucid observers also are “on tap” for the administration of government.

Irrespective of what the future may hold, there is no reason to doubt that the economy of our free people will prevail so long as the people use good common sense and are reasonable in their expectations, so long as their government brings into full play the advanced knowledge about the conditions that make an economy healthy and give it vigor, and so long as beyond the loyalty to their employing agency the dedicated public servants are first and last of all loyal to the Nation.

THE INFLUENCE OF SCIENTIFIC AND TECHNOLOGICAL TRENDS ON ADMINISTRATION

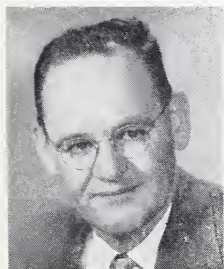
by
Charles V. Kidd

It is an honor to participate in this lecture series commemorating two men—William Jump and Thomas McKillop—who exemplified the highest traditions of the career public service. The Department of Agriculture and the Graduate School are particularly appropriate sponsors of a lecture on the influences of science and technology on government administration. Agricultural research was the first field of science to be deliberately exploited as a continuing enterprise of government. As Dr. Byron Shaw, the head of the Agricultural Research Service, has recently pointed out: "For nearly a century agricultural research in the United States has been mainly a public effort, financed and conducted by the Federal and State Governments."

The agricultural effort was supplemented by other Federal research enterprises in the nineteenth century. These were, in retrospect, clearly related to the central theme and dominant influence of our first century of national existence—the move westward. Agriculture, geology, paleontology, cartography, and botany were the fields of research in which the Federal government was most active.

In the twentieth century, a number of forces have led to a steady and rapid growth of the national scientific and technological effort. Among these have been the substitution of what Vannevar Bush aptly called *Science the Endless Frontier* for the geographical frontier; the extension of science itself; the insatiable demands of industry for new products; and an era of war and uneasy peace that has lasted since 1914. Government has become increasingly involved in the conduct and support of science and technology and with their social, economic, and political consequences.

The evidences of technological advance surround us, and they need not be described in detail. Power sources and means of using



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power—turbines, jet and rocket engines, and nuclear reactors—expand the horsepower available per person. Electronics provide means of communication control and measurement of immense sensitivity and power. The medical sciences produce the technical means of eradicating bacterial, parasitic, and perhaps virus diseases. The physical sciences are exploited so that man now has the capacity to annihilate himself.

Technology derived from the social sciences—social technology—exerts a pervasive effect upon organized human affairs, an influence often underestimated by advocates as well as sceptics of the social sciences.

The highly advanced technological processes of data analysis have a great deal to do with the administrative process—both private and public. To make this point concrete, imagine what would happen if, one day, there were no national income statistics, no industrial price and production series, no crop data, and no census. Moreover, the theoretical framework for using the data is becoming stronger. For example, the concepts of income flow which underlie the apparatus of national income statistics form a body of generalizations as useful and as productive of further exploration as many general concepts in the physical sciences. Without this vast interconnecting network of data collection and analysis, the governmental and economic apparatus would lack the feed-back of information required for intelligent response and change. The gigantic economic organism would lack a nervous system.

Looking to the future, it would seem logical to expect the power of social technology to expand as the powers of biological and physical technologies have expanded. Better understanding of mass social movements, and of the drives, fears, and aspirations of individuals is certain to come. In the realm of the physical and life sciences, such accomplishments as provision of ample water to all regions of the earth, production of cheap unlimited power from fission and fusion reactions, and eradication of the major communicable diseases are not in the realm of science fiction, but the subject of serious study. There is every reason to suppose that the technological advances of the last half of the twentieth century will far surpass those of the first half.

One can, in fact, make a good case for the proposition that such technological developments constitute the most powerful and pervasive single force affecting our political, economic, and social life. And any force of this kind inevitably affects not only administrative functions, structure, and processes, but also administrators. The ways in which technology affects administration will form the first part of

this lecture. The second part will deal with some problems encountered in dealing with a paradox—the administration of creativity. In concluding, some of the implications of science and technology for the administrative structure of government will be noted.

Social, Economic, and Technological Forces Interrelated

In the two preceding lectures, the effects of social and economic trends on administration have been made clear. Without laboring the point, I should like to point out that science and technology are not separate from nor influenced by social, political, and economic factors. George Sarton, the dean of historians of science, epitomized the effects of social and political forces on science in a beautiful and instructive simile:

“Great social events cast their shadows before and after upon science as well as upon other human activities. Science never develops in a political vacuum. Yet each scientific question suggests irresistably new questions connected with it by no bounds but the bound of logic. The whole fabric of science thus seems to grow like a tree. The dependence of science, as of a tree, upon environment is obvious, yet the main cause of growth is inside the tree.”

This dependence of science upon its environment is directly significant for administration. To an increasing degree, administrators must be trained to deal with these factors affecting, and conditions necessary to, technological advances. Such matters as the tax status of industrial research expenditures, the character of anti-trust and patent legislation, pricing policy, and wage policy are to an increasing degree determinants of the rate of technological change.

In a reciprocal fashion, technological trends affect social and economic trends. In fact, the tremendous impact of technology on production, on social force, and on man's view of the world create the most significant implications for administration.

To make these abstractions more meaningful in the sphere of economics, consider the late Summer Slichter's observation on the effects of technology on investment: “We have developed an industry of discovery whose product is knowledge . . . Here we have a large and rapidly growing industry devoted largely to discovering or creating investment opportunities. From now on, economists must put the industry of discovery at the top of the list of income determinants.” In the civilian sphere, this industry of discovery is devoted essentially to increasing the output of goods through change. Both the increased output and the stepped-up rate of change have general implications for administration.

Looking first at output, we are now in the middle of a technological revolution which may well increase the productivity of

the economic system at a greater rate than did the industrial revolution. We can be richer, and probably will be, than any other group of individuals has ever been.

But two central problems arise from this view of the future. The first is whether we can wisely divide the products of the system between private and public uses. The second is that the increase in productivity which generates such a rosy domestic prospect, may operate to widen the gap between the highly industrialized and the less highly industrialized nations. The possibility that the gap may widen is probably as great a long-range threat to the peace of the world as is the great ideological split. If the gap is to be narrowed, as it must be, we will be engaged for decades in administering a gigantic attempt to export capital and the elements of culture necessary to make the capital productive. The more effective technology becomes as a tool for lifting material standards of living, the more intensive must be our efforts to export technology.

Viewed in this light, the effects of technology upon output constitute a force as pervasive and explosive as nationalism.

Related to, but extending beyond, the economic consequences of technology is the rate of change induced in all phases of life by technological developments.

For example, the technology of war is changing at an unprecedented rate. The transition from TNT to A bombs to H bombs, from manned bombers to missiles, from cavalry to thousand-mile radar to surveillance satellites, has taken only a few years. All of these technical developments require shifts in policy as we become at the same time more powerful, more vulnerable and more interdependent with our allies. Moreover, prediction of technological development is to an increasing degree an indispensable element of effective foreign policy.

Technological developments, and science, are interwoven with foreign affairs not solely because of their military importance. Technological superiority, and even (as George Kistiakowsky has pointed out) the appearance of superiority, are symbols of status and strength throughout the world. At the same time, science offers the most effective channel of communication with the intellectual elite of Russia and her satellites, and the opportunity for understanding between the two worlds offered thereby must be vigorously used.

The rate of change induced by technology is a basic aspect of our domestic life. Man's environment is altering, and not entirely for the better. Among the significant social developments stemming essentially from technology are the rapid net shift in population from farms to suburban areas, the sharp changes in family composition

and structure, and the stresses arising from mass production and automation. Increases in production have been paid for in part by water and air pollution, and by a sharp increase in the tempo of life. The fact that half of the hospital beds in this country are occupied by mental patients is certainly related to the shattering effect of technology upon established and stable modes of living.

The primary consequences of rapid change for administration are clear. It will become more difficult to adapt administrative structure and processes to change in the problems to be administered. The task of administration is less and less the operation of a fixed system at increased efficiency. It is, to an increasing degree, administration in a situation where change arising from technology is predictable, but where the rate and nature of change is unpredictable.

Coping with accelerating rates of change is perhaps the most fundamental task of the modern administrator. This basic fact is common to all fields of administration—to the military; to the use of atomic energy; to the regulatory functions of government in the areas of transportation, communication, finance, and anti-trust policy; and to all aspects of foreign affairs.

How are people to be trained, or educated, to accept and deal with changes? Neither knowledge of tried and true precepts nor possession of any particular technical skills is adequate. They can, in fact, be impediments to comprehension of new circumstances, as when accountants, personnel, and budget experts undertake to understand and use the full capacities of computers. Certainly it will be increasingly more difficult—or futile—to train administrators to deal with specific problems through specific techniques. Both the problems and techniques are likely to become obsolescent before the new administrator begins to administer. Moreover, the very capacity to change at a rapid rate raises more frequently and more insistently the question: change toward what? change in response to what values? This means to me that the most effective training for administration must be basically a liberal education, dealing not only with the fundamentals of the political and economic processes, but also with humanities, with other cultures, and with our past.

The Administration of Science

I should like to turn now from consideration of the consequences of technology for the task of the administrator to some problems involved in the administration of science itself.

The administration of science involves a basic paradox. The creativity which is a product of free individuals must be sustained in an environment which inevitably limits the freedom of individuals. This conflict arises whenever scientists work in an organization—

academic, industrial, or governmental—which has either limited goals or limited resources.

A number of scientific and technological trends accentuate the conflict.

First, the relatively recent discovery that technology, and even parts of science, can be used to attain pre-determined goals is significant. When technology and science can be exploited for practical ends, they will be exploited. The pressures upon science to come forth with immediately useable findings mount steadily, and these pressures tend to restrict the freedom of the scientist.

A second trend affecting the administration of science is the increasing size and complexity of the tools of experimentation. President Stratton of M.I.T. has pointed out that, "The scale of research and the complexity of its techniques have grown beyond anything imagined a few decades ago . . . Remarkable gains in our capacity to measure can be exploited only at the cost of great complexity of instrumentation."

A third trend is the geometric rate of growth of the complexity of science. This forces the growth of specialties which are divided into finer and finer sub-specialties.

The increasing social pressures on science lift to a new peak of urgency the question of whether science is best and most productively pursued for its own sake, or as a social tool for the betterment of man. The answer to this question is that science and technology will be exploited. The more meaningful question is: How are islands of intellectual detachment, and of high intellectual expectancy, to be preserved in a society which tends to exploit every force for the immediate increase in the output of consumer goods? This, of course, is the task of universities. And for government laboratories, a most difficult task is to serve legitimate social objectives—improvement of crop yields, increasing the safety of air travel, production of isotopes for industrial uses, curing disease—while at the same time preserving the conditions under which the individual can retain the degree of intellectual freedom that is necessary to creativity.

Second, the increasing size of experimental tools—synchrotrons, linear accelerators, nuclear reactors, electron microscope, isotopic measuring techniques, mass spectro-photometers, and so on—expands the minimum size of the experimental group. Increased specialization has the same effect. The old debate over the question of whether team research is productive or not is dead. The bright remarks disparaging group effort—such as the one that "team research" is just "gang research"—ring hollow. The nature of science itself

has so altered that the absolute minimum unit of effort in many fields is so large as to require group effort.

The efforts of the group have to be coordinated and planned. This is an administrative task. The needs of the group for facilities, services, and supplies have to be met. This is an administrative task. And limited resources have to be allocated among individuals and groups. This is an administrative task.

To the scientist, it often appears that the administrative cart is put before the scientific horse.

For most scientists the relationship between research and administration is a matter of intense personal concern. This was brought forcibly to my attention while preparing this lecture. There was an irresistible temptation to mention casually that I had been asked to give this lecture. One of the first to receive glad tidings was a scientist friend. His reaction surprised me. First, he was unimpressed. Second, he thought the title—*The Influence of Science on Administration*—was not only vague but backwards. The real problem, he said, was *The Influence of Administration on Science*. Those of you who work in scientific organizations either as scientists or administrators know what he meant, and the depth of his feeling.

The general point to be made is that the operation of modern laboratories, under the stress of the trends that I have mentioned, is essentially a new human undertaking, and one of extreme complexity. The administration of science and technology is, in fact, quite different from the administration of other kinds of activities—except, perhaps, universities.

First, the concept of the power hierarchy and its operation that pervades thought and writing about administration must be applied in a careful and limited sense—if it is applied at all—to the operation of laboratories.

In non-research organizations, administration is in a sense the reason for the existence of the organization. For laboratories, administration is a service. The administrator is not the boss, but the servant.

A research organization provides a home for the investigator, but it is not necessarily the focus of his intellectual and emotional loyalties. The scientist looks to his peers in his discipline for his deepest rewards and attachments. These peers may be in his laboratory or half way around the world. They are certainly not in the front office. They can judge, reward, and punish him more effectively than those in the formal administrative structure of which he is a part. This makes it particularly difficult to establish and achieve institutional goals. And just as the scientist tends not to be an “or-

ganization man", research components tend not be "organization organizations". The prime bureaucratic virtue of program loyalty is typically not highly esteemed in research organizations. They tend to be mavericks, and this often generates strain within larger organizations which contain both research and other functions.

To a unique degree, the creativity of a research organization, its goals, and its achievements depend upon individuals near the bottom of the traditional administrative hierarchy. Moreover, the staff knows this, if it is any good. In few non-scientific settings is a major objective of the organization, the stimulation of creativity among those who have minor or no administrative duties.

As a final example of the differences, the functions and processes of communication differ between research and other organization. Communication upward is unusually important in research because decisions at the top depend upon findings made at the bottom. Communication downward in a research organization is the process through which forces fundamentally antagonistic to the freedom of the individual are transmitted, and extraordinary care is required if authority is to be exercised with productive results.

Other differences might be pointed out, and the whole theory and practice of the administration of science needs much more attention than it has as yet been given.

In summary, one of the central problems involved in the administration of our system of science and technology is to reconcile the freedom of the individual required for productivity with the organization required when resources are limited and goals are set. My own view is that this dilemma can never be reconciled. The system of tensions—to use Harland Cleveland's apt and generally applicable idea—is inherent. The objective of administration of science is not to try to do away with the conflict between the individual and organization, but to use it. This requires a new kind of administrator who understands that he is the ambassador from science to the world of social and political pressures, and the agent through which science adapts to these pressures.

There is a severe shortage of people who can act effectively in this capacity, and important forces frustrate the recruitment process. Many scientists must, and have, become administrators. But they don't like it, and they generally resent the change.

On the other hand, the vital problem of securing effective administration of science has been ignored to a remarkable degree by students of administration.

As a result, the administration of science is more an artistic than a scientific performance, and it may always be so.

Administrative Structures for Science and Technology

In concluding, I want to touch upon some of the influences of science and technology upon the administration of the functions of the Federal Government.

This is an area so vast that I shall try to epitomize and illustrate rather than to describe.

There are first the changes in governmental functions brought about by science and technology. The Federal Government operates a vast set of laboratories which now cost about \$1.5 billion a year. While operation of scientific laboratories is not a new function, the very size of the undertaking establishes the administration of laboratories as a major specialized function of government.

More significant in terms of function is the purchase of research from industry and from universities by government. About half of all industrial research and development is financed by the Federal Government. In the aircraft and parts industry, 85 percent of all research is tax financed. The research programs of many industries are in effect extensions of the Department of Defense. This establishes a new kind of administrative relationship which Don Price has aptly called federalism by contract.

Industrial contract research involves a high degree of control by government because budgets are set by the Federal agencies. Lines of work are specified by contract, and the standard governmental contract procedures are applied. But the industries are not regulated in the sense that utilities are regulated. Salary scales, for example, are set in the open market. Government contracts generate the demand for technical people, and the Federal money finances a competitive upward salary spiral. This is why one sees 8 to 10 pages of ads for scientists and engineers each Sunday in the New York Times. And this is the main reason why universities complain about losing faculty members to industry.

In purchasing research from universities, the Federal Government has thrown severe strains upon the university system of the country. The basic fact is that the national defense welfare are so dependent upon exploitation of science and technology that the government must exploit the fields. Another basic fact is that a large proportion of the group competent to do the research is found in universities. So universities cannot simply refuse to do Federal research. If they did, the government would take their faculty members and get the work done elsewhere. In accepting the funds, the universities face difficult administrative and policy decisions. They must decide what they want to be—whether they want to be larger

or not; whether they wish to extend their scientific and technological programs at the expense of social sciences and humanities; whether they are willing to sacrifice the quality of undergraduate teaching in favor of graduate teaching and research. One might say that these problems are for the schools to settle. But one of the most fundamental effects of science and technology on administration is to force the Federal Government to consider such problems.

The relationships of the Federal Government to universities through science and technology are more involved and fundamental when the government acts not as a purchaser of research, but as a sponsor of research. Science has become so vital to the national welfare that the government must support the enterprise itself. The Federal Government—or more precisely, an array of Federal departments and agencies—is now by far the most significant source of support for university research. About 70 percent of all university research is federally financed, and the trend is away from purchase of research and toward support of research. To illustrate this shift, Department of Defense funds accounted for 73 percent of all Federal research funds given to universities in 1953. By 1960, Defense funds made up only 30 percent of the total.

Now Federal administrators must make decisions that affect the very center of university policy. Will Federal agencies pay the salaries of tenure faculty? Will they pay bonuses? Will specific, defined projects or broad areas of research be supported? Will funds be made available for long or short periods? Will research facilities be constructed, and how extensive will support for training of manpower be? Administrators must answer these questions, generally within such broad statutory mandates that the laws typically provide no guides for specific actions. To an unusual degree the appropriation process, rather than substantive legislation, is the guiding legislative force in administering research grants and contracts.

Most, if not all, of the problems that would be faced if the Federal Government provided general aid to higher education are being in fact explored by administrators in universities and Federal agencies. The system provides aid to the educational process in an unplanned, partial, and fortuitous way. But the very dispersion and indirection of the process permits experimentation and the accumulation of experience. The fact that the issues are not faced squarely is in one sense an evasion of the problem. But in another sense, the absence of a total rationale and of a comprehensive plan provides a means of exploring problems and arriving at partial solutions. This process avoids a premature total commitment and premature invocation of ideologies of Federal aid to higher education.

It would have been most remarkable if all of the questions that I have just sketched could have been handled by the structures for research existing at the end of World War II. New administrative structures and processes have in fact been produced, and this brings me to the last topic of this talk.

The Nation's structure for the conduct of research has been expanded and strengthened. Many universities have taken on the character of gigantic research institutes, with the array of special laboratories and centers, in addition to committees and vice-presidents required to administer such large enterprises. Industrial laboratories have not only expanded—their place in the corporate structure is typically more important.

Entirely new kinds of research organizations have been set up to meet needs that could be fully satisfied by neither industrial nor governmental laboratories. So elements of both were combined in a new and spectacularly successful form of organization—the research center. The gigantic centers like the Radiation Laboratories at Berkeley and Brookhaven were brilliantly improvised to meet needs that could be satisfied neither by industry nor government laboratories.

Within the Federal Government, major new governmental agencies have been established solely to administer activities arising from science and technology—for example, the Atomic Energy Commission, and the National Aeronautics and Space Administration. Scientific parts of existing agencies—such as the Agricultural Research Service and the National Institutes of Health—have expanded rapidly.

Supplementing the organizations whose task is direct administration of research is a new structure, built over the last decade for consideration of problems of science policy, and for coordination of the scientific and technological activities of the Federal Government. This task's significance as a permanent function of the Executive Branch was not recognized until 1947. Establishments of the National Science Foundation was a critically important step in 1950. In 1957 a Special Assistant to the President, with the President's Science Advisory Committee, was assigned the task of advising the President on the formulation of scientific policy. In 1959, following the recommendations of this Committee, a new Federal Council on Science and Technology was created. Thus, by a series of steps, the problems generated for Federal policy by science and technology have been woven more strongly into the top structure of the Executive Branch.

I am one of the bureaucrats possessing the unwarranted optimism to whom Harlan Cleveland referred in his earlier lecture. So,

I believe that progress toward the establishment of an effective structure for science policy is satisfactory. It does seem to me, though, that the science policy machinery in the Executive Office of the President might advantageously be established by statute—following the general precedent set by the post-war national affirmation of a full employment policy and the establishment of a statutory Council of Economic Advisors to the President. This recognition of the significance of the critical role of science and technology in our national life seems to me to be logical and, in fact, urgently needed.

When one considers the surge and swirling pressures of science and technology—pressures that I have been able only to suggest—one wonders whether man is, in fact, capable of dealing with the disturbances created in human affairs and their administration. But, after all, man has lived through other periods of rapid change.

Francis Bacon lived in such a period of change, and he wrote in *The Advancement of Learning* an assessment of the state of affairs that is still largely valid.

“In this time we have the art of printing, which communiceth books to men of all fortunes; the openness of the world by navigation, which has disclosed multitudes of experiments, and a mass of natural history; the leisure with which these times abound. Our time should far surpass all past ages. It will do this only if men will know their own strength and their own weakness both; and take one from the other, light of invention, and not fire of contradiction; and esteem of the inquisition of truth as an enterprise, and not as a quality or ornament; and employ wit and magnificence to things of worth and excellence, and not to things vulgar and of popular estimations.”

We are in an age of science much like that of Bacon—but with an apparatus of incomparably greater power for good or evil at our disposal. This science is largely an enterprise administered by a democratic government. A research enterprise which depends, as ours does, upon the patronage of a democratic society cannot flourish over the long run unless a broad base of understanding of science exists—not awe, not faith, not fear,—but understanding.

PROMOTING ADMINISTRATIVE VITALITY

By
Marshall E. Dimock

I must confess that when I first read the title of this year's Jump-McKillop lectures—"The Influences of Social, Scientific, and Economic Trends on Government Administration"—I was reminded of the favorite comment of a business friend of mine. When I think I have him cornered in a theoretical argument, he remarks: "Wide and scattered." And then when I read Dean Cleveland's brilliant opening lecture and found that he was critical of too much theory, I had additional reason for being concerned about my role here. I got over some of my feeling of alarm, however, when I recalled that Mr. Jump, whom I knew while I was serving as Assistant Secretary of Labor, would have said, "The only sound practice is sound theory, but the trouble is that too much theory just doesn't qualify." In addition, I felt better when I discovered how much fine theory Harlan Cleveland had spun before he got through! From these confessions you can deduce that I plan to advance a few theories of my own, even though, like Dean Cleveland, I claim to be a practical man.

If a man like Colbert, who once master-minded the destinies of France, were alive today and advising the United States on its policies and administration, I wonder what he would say? It was Colbert, who like other leaders of his time, believed that political economy (by which he meant a strong nation) is a matter of efficient public administration. I would not wholly agree with this view because improving men's lot is also a matter of efficient administration in the private sector of the economy—which in our case I am glad to say is much the larger of the two. I would be inclined to stress management in all segments of life, beginning with the home, or even the individual. But that improving institutional management will have a lot to do with overcoming the difficulties of complexity which previous speakers have talked about seems clear even to those, who



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like myself, think that belief systems, values, religious teachings, a person's character, and all the non-institutional aspects of life are pretty basic, too.

I will therefore start the discussion by telling you what I assume to be true. I think that whether our free system can survive in competition with dictatorial systems will depend upon which system succeeds in maintaining vitality in administration. I also think that vitality is both quantitative and qualitative, energy and spirit: that vitality arises in response to outside challenges; that the most lasting and effective response is internalized response; that to internalize a challenge you need values and belief-systems which enable you to pick the right goals and produce the right spirit and that therefore technology, machines, and techniques are never enough; that the group and the individual are both important, but that the group is only the means and that the individual and his growth is always the legitimate end.

If I were a reincarnated Colbert, I would say that what we need is a modern view of political economy, a view that talks expressly about what policies and what methods of administration will assure people of a better way of life; that with this political economy view we should be able to fold together all the strands which today seem disordered and disconcerting, and that we might even get over our present tendency—which at worst becomes a national disease—of riding off in all directions at once: Toward a pseudo-science. Toward a worship of machines. Toward defeatism and existentialism. Or worst of all, toward a surrender to the notion that the only way we can hold our own against the Russians or even the Chinese is to adopt their assumptions and their methods.

My belief is that if we were to ask ourselves, "What do we mean by vitality in administration?" and really stick to the issue until we were satisfied, we would come away with most of the answer to what perplexes the United States today and causes many people to worry about a slackening of national morale.

Meaning of Vital Administration

Vitality is something more than energy, although basically I suppose that is its base, at least for measurement purposes. But vitality has other dimensions. The engineer with his stop watch might be able to overlook them, but the general executive, or the statesman, or the captain of industry does so only at great peril to his country's survival. For vitality is not only energy, which may be undisciplined and run off in all directions. It is also spirit, this elusive thing we call morale, or incentive, motivation, the will to work, the will to excel. It is the most important thing about institutional management.

And because that is true, it is also the most important thing about the political economy. The figures that enter into the gross national product and the atomic warheads we have stored are not important. The thing that pays off is morale. And fortunately that is produced only by giving people the chance to struggle for the things they want and that make them happy. It cannot be bludgeoned, or regimented, or simply produced by treating people like machines.

There is another dimension to vitality and it is important. I mean staying power. Not just having energy to go to a dance and stay up all night (although I would not discourage it). But energy to keep going at a high level of spirit and efficiency for generations into the future, as a business, a government department, or a nation must do.

After reading everything I can find on Russian administration and after being in Russia this past summer, I have the feeling that their danger of slowing down may be greater than ours. The first flush of their new religion has begun to wear off. Their elite is one of formal degrees and eggheads, not men who toil with their hands and till the soil. Theirs has become a managerial society like our own, and far more of a technocracy, with engineers and scientists running the system. Some of these things are not necessarily bad for a country. What is bad is having a monopoly of power so that regimentation and conformity are the rule; downgrading the individual, which is the only source of variation and inventiveness; worshipping the myth of collectivism. When you examine it, this myth exhibits all the same stresses and strains, all the principles of responsiveness and responsibility, all the fine balances which produce spirited or dull administration in the United States. For vitality, like the principles of administration, is not determined by the complexion of political regimes and the names they proudly bear. Rather, vitality is determined by the balances that exist between authority and freedom, monopoly and competition, power and individuality, belief and lack of belief, uniformity and encouragement of experimentation, and making the individual the goal of policy or stressing the anonymous group. These are the balances that either give administration vitality or doom it to bureaucratic mediocrity.

If I were a modern Colbert, I would conclude that there are principles of administration as well as of politics; that politics and administration are inseparable; that these problems grow in difficulty and importance as institutions become increasingly large and complex; that the larger institutions become, the harder it is to keep them vital; and that if energy is not renewed at its source, in the "primary" groupings of society, mainly the home, it is doubtful whether they

can ever be renewed by what in Colbert's time were called "artificial" means. Although I am as optimistic about man's future as Dean Cleveland, I am by no means as optimistic as he when he says, "In a world where there is no limit to how complicated things can get, what with one thing always leading to another, nearly everybody will get a chance to fall in love with complexity. Joy be to those for whom this love affair lasts a lifetime. They will be our public executives, and they shall inherit the earth, not because they are meek, but because they are not."

Instead of "loving" the complexity which surrounds us, might it not be in order to try to find out why institutions become more bureaucratic as they grow? With size, too, big business becomes more "political" and increasingly resembles big government. Why is it that in both big business and big government there is a constant fight to keep people motivated, provided with leaders, coordinated, and free to develop their individuality and inventiveness?

I came to some conclusions about these things in the study I completed a year or so ago with Rockefeller and Sloan Foundation money. The name that we give to institutional complexity is bureaucracy. Bureaucracy, since it stresses order, is a source of efficiency, just as scientific knowledge is a source of energy. But bureaucracy, like science, is not enough. Bureaucracy is produced by the need for division of labor, specialization of function, hierarchical organization, rules and regulations, and uniformities and standardizations which assure equality of treatment. The emphasis is toward "impersonality," which is one of the factors that, if carried too far, drains the life out of administration and makes it anaemic. This complex called bureaucracy has other effects that are anti-social when carried to excess or when not combined with countervailing factors. These excesses I call the pathological features of bureaucracy. They are a tendency to specialize and to become excessively segmented, thus inviting myopia and loss of responsiveness. They are a tendency to shirk responsibility and to fail to produce leadership and innovation. They lack in motivation and leadership and hence bureaucracy is easy prey to inertia and what psychologists call "zones of indifference." The Communists try to overcome by indoctrinating their managerial elite with a patriotic fervor comparable to a religious fervor. And finally, pathological bureaucracy is an emphasis on aggrandizement which has a psychological rather than a social justification—it is due to frustration rather than challenge.

If we could build on the best in bureaucracy and find methods of offsetting the excesses, we would take a long step toward the vitality we are seeking. How can we do this?

There are several ways: through infusing larger draughts of enterprise into administration. By enterprise I mean responsiveness, adjustment to change, innovation, alertness, tying complicated things together the way an inventor must, taking chances if the stakes are worth it, emphasizing the responsibility of the individual, providing adequate rewards and incentives to make men put forth their best energies, creating an elan or a *weltanschauung* which makes people feel dedicated and patriotic and full of a worthwhile mission without experiencing the need to conform to or to worship "sacred cows" not of their own choosing. Enterprise, like bureaucracy, is a process. It can be rationally explained. It starts with an idea and an incentive; the inventor fuses his reason and his imagination; the integration takes place in one man's mind, but uses the products of countless other minds; and finally the invention comes forth as something useful to society and becomes part of the administrative process. At this point the circle is complete: bureaucracy and enterprise are joined.

When I heard men talk, like William Jump, Harlow Person, and others from Agriculture who have distinguished themselves in scientific management, it seems to me that their thought and experience tended toward some such conclusion: vitality is no one thing; it is a skillful blend; it is basically a combination of the rational in bureaucracy combined with the human in enterprise. Order and freedom? Is this not what political philosophers through the ages have said is the best blend if men are to achieve happiness in group living? I think it is. How wrong it would be, therefore, if we were to lay undue stress on machines and science simply because the Russians stress them. If we stress them, let it be for humanistic or even idealistic reasons. How shortsighted it would be to mechanize organization and procedure simply because machines perform a limited range of functions reliably. And how tragic it would be if we were to neglect leadership, decision-making, and planning in government simply because these terms are identified in some peoples' minds with totalitarian regimes. Instead, without in any way lessening our outspoken objection to totalitarianism—such as its hostility to religion and to freedom of dissent—let us learn to think as administrators should: in terms of challenge and response, cause and effect, balances between inanimate and human factors, and make a blend of bureaucracy and enterprise.

There are big stakes in such an effect. Vitality itself, the kind defined above, which, like the economist's multiplier, is capable of steady progress at a sustained pace. Not the "one-shot" kind that causes a doped reaction and a subsequent let-down. If I judge cor-

rectly, the Russians are going to suffer from such a let-down. It is simply the old fatigue curve, with little in reserve based on conditions of freedom and individual responsibility to produce a rebound. But before we prematurely compliment ourselves on being superior to the Russians, let's remind ourselves that we are already aping them in too many ways and that we may suffer a loss of spark and energy reserves as a result. The gray flannel suit carries a fine crease, but the crease needs frequent pressing.

Applications of the Argument

What this suggests to me is the need to train administrators in the idea of political economy. They will have reflected long and deep on the goals of national policy, whether in agriculture or something else. They will feel deeply as well as think deeply. They will be like our early settlers—they will have an image of America that drives them on. It will not be the party's dream or the dictator's—it will be the dream of each individual, as Walt Whitman was always saying. As you all know, we could use more of this in Federal administration. My belief is that the logical way to offset Communist fanaticism in administration is by an American belief in values as expressed in goals, laws, policies, and concrete plans.

The virtue of the political economy approach to administration is that it trains men to be planners, decision-makers, and leaders—all rolled into one. And insofar as we succeed in staffing our field offices, bureaus, and top echelons with such people, we may expect certain results: A constant stream of ideas will come up from the primary level, where, as Chester Barnard shows, the reputation of an agency is made. Leadership will be widely distributed instead of concentrated at the top, as it almost has to be in a totalitarian regime. Men will be tested and trained at an early age and hence enabled to go further during their lifetimes. But especially, there will be a spirit and a solidarity in administration which comes from mutual respect and from letting administrators at all levels into the planning, leading, and coordinating processes. This spirit of solidarity is far more effective than fear, or the leading-with-a-carrot device. It is the secret of the energy-in-reserve formula which our ideological opponents have never understood. It is the trait that made Britain so durable. We expect and get leadership at all levels, while the dictator mistakenly thinks that leadership is necessary only at the apex and amongst the elite corps. We administer by objectives and they administer by detailed directives, as studies like those of Fainsod and Granick of the Russian situation have made clear.

Nevertheless, there are some things that I think can be learned from Russian administration. For one thing, we should be less squeam-

ish about allowing our top career civil servants to recommend policy to temporary political appointees. That is so long as these appointees take responsibility for the decision, as they should. For too long and in too many agencies we have wasted the wisdom and the profound knowledge of countless top men in the civil service, simply because we have some mixed-up idea of what is improper political activity. If we would realize that policy and partisanship are two distinct things, and that the civil servant is indispensable for the first and quarantined from the second, we would get along much better and faster than we do. We would produce leadership that has vitality; otherwise, my own belief is that we are not likely to.

The plain truth seems to be that it is program that unifies and synthesizes the many elements of administration: program-formulation and the personalities of individual leaders. I call this in my own language, the political economy and the humanistic approaches. When they are combined with science there is likely to be an unbeatable combination.

This leads me to the last point I want to make, and I think it would interest those we honor this afternoon more than any others. It now seems clear that if we are to solve our leadership and managerial problems in government agencies (and the same applies to industry) we must produce men who are outstanding in fields of *production*, such as agronomy, industrial chemistry, electronics, and all the rest. Further, we must expect that their special skill will be their expertness in one of these fields, not in administration as such. Administration will probably be taught only slightly in the technical training of these men, but it will be emphasized increasingly the longer they serve in administrative positions. This represents no lessening of my conviction of the importance of administration. It simply means that learning to be expert in any field, be it corn production or steel production, retailing farm machinery or pork products, is so demanding of one's attention that training in administration should be secondary. Main emphasis should be on courses that train the mind, the sentiments, the personality, as do basic subjects such as mathematics, the sciences, languages, philosophy, and the arts. In agriculture, as much as in any field, we need men who have historical perspective, philosophical depth, and an ability to think in terms of the political economy and the larger public interest. Men who will read and reflect and continue to grow all through their careers.

Again, I say this not to deemphasize the importance of management courses at the university level, but to add my support to those who say we should be turning out more tough-minded, systematically trained, broad-gauge people in every field of knowledge.

One of the things that impressed me most in Russia is that they are counting on this thorough approach to education to outdistance capitalist countries, and America especially. We should not let them do it. We should realize before it is too late that there is much in American education that is superficial and much less worthy of support than the basic subjects; and I want to make it clear that among these I include philosophy in the same category as science and mathematics.

When we begin to train men and women in this manner, we can begin to stress the PPE (philosophy, politics, economics) approach to the training of top leaders in government. They should have the same kind of training, in my opinion, irrespective of whether they intend to follow the political or the administrative route once they enter government service. The fact is that those who have left the most indelible mark on Federal administration are those who possessed in greatest measure the skill that in the best sense is called political.

The last stage in this process of reasoning is one that is particularly appropriate in this presence: As we emphasize the basic subjects at the undergraduate level, we must stress executive development courses by the departments and agencies that must produce and renew the leadership talent that bureaucracies especially need. Such training cannot be done in a spasmodic, hit-or-miss fashion. It will mean schools similar to those that serve the foreign service and the military. Executives at various levels should be assigned for periods ranging from 3 months to a year. The faculty should be both academic and practical, and of the best quality the country can afford.

Conclusion

I don't know whether I have escaped the fate I foresaw at the beginning—the temptation to become wide and scattered—or of falling into the even more objectionable role mentioned by Dean Cleveland, of pontificating too much. But sometimes when you feel strongly about something, this is hard to avoid.

At any rate, I hope I have made it as clear as Colbert might have, that producing and retaining administrative vitality is no simple matter. Administration takes its character from the larger community of which it is a part. If the community fails, administration also fails. Administration's job in government is feasible or difficult depending upon how well voluntary forces do their jobs. If private business is efficient and public-spirited, the government will have less to do. If business is monopolistic, slothful, or greedy, the government will have its hands full. Sooner or later public opinion will demand that government either regulate or operate businesses found to be un-

satisfactory. I think I probably worry more about this than some others, because this happens to be my chief area of concentration in the political economy field.

I agree with Dean Cleveland that complexity and bureaucracy will both increase at a rapid pace. But are we thinking clearly when we suppose that vitality in administration is possible irrespective of the trends toward concentration and monopoly? I am not optimistic, but I am not willing to cry "uncle." If we are to stand any chance of success, there are certain things I think we must make up our minds to do:

Study the strengths and weaknesses of bureaucracy and enterprise and make these findings operable in our day-to-day work.

Rediscover the idea of political economy and teach it on the job to executives at all levels, so they will see interrelationships and be able to trace decisions in one area to their probable effect in others: the effect of agricultural price support on prices generally, for example, or the effect of monopolistic competition in industry on the decline of the farm family.

Produce a new type of government executive, one who is trained rigorously in a specialty and is still able to develop the human skills needed for morale building. This person will take the initiative in program formulation and decision-making, subject only to final approval by his equal, the political appointee. As a group, these top civil servants will feel that the weight of the future rests on their shoulders.

Give our top government leadership an understanding of and deep sympathy for the economic leadership of our country and expect in return an equally devoted and constructive support of governmental improvements.

Put the emphasis in administration on the program operator and start men out in such jobs, not in staff jobs or technical fields. Make government administration as direct and as hard-hitting as the most energetic business in the private economy. This means recognizing the importance of the staff man and the staff unit, but not magnifying their importance as we have been inclined to do since the New Deal days of the 1930's.

And, finally, revise our ideas of university education so that fewer people are trained in management, per se, and more become so expert in substantive fields that they could even teach the subject. Then add training in administration on top of this kind of education, partly at the graduate level, but even more through well-conceived and skillfully executed programs of in-service training.

If I were sure that America would do all these things, I would feel fairly secure about the country's ability to cope with the complexity that is suggested in your theme, "The Influences of Social, Scientific, and Economic Trends on Government Administration." So, with apologies to the sponsoring committee for the crack at the beginning about "wide and scattered," I want to say most sincerely that I appreciate the opportunity you have given me to outline my views on this subject this afternoon.

THE WILLIAM A. JUMP-I. THOMAS McKILLOP MEMORIAL LECTURES IN PUBLIC ADMINISTRATION

In recognition of the service of William A. Jump and I. Thomas McKillop to the Department of Agriculture and their contributions to the development of public administration in the United States, the Graduate School in 1952 established the William A. Jump-I. Thomas McKillop Memorial Lectures in Public Administration.

William A. Jump, who died on January 22, 1949, had been Department Budget Officer since the creation of that position in 1922, and Director of Finance since 1934 when the Office of Budget and Finance was established. His entire career was devoted to public service in the United States Department of Agriculture. In 1947, the Department, in recognition of his outstanding contributions, presented him with a Distinguished Service Award.

Mr. Jump was an outstanding leader in and out of the Federal Government in the field of public administration. Perhaps more than any other man in his lifetime, he influenced the development of modern budgetary and management concepts and the application of these concepts to the formulation and administration of Federal programs. In 1939-40 he served as a member of a subcommittee of the President's Committee on Civil Service Improvement. He was one of a group which founded the American Society for Public Administration. After the war, he contributed to the organization of the Food and Agricultural Organization of the United Nations, and in 1947-48, was United States representative on the five-nation subcommittee on Finance. He participated in the establishment of the Graduate School and taught in the School for many years, and was a guest lecturer on public administration in many of the leading colleges and universities in the country.

I. Thomas McKillop was killed at the age of 38 in an airplane accident on June 30, 1951. During his short span of years he was an educator, a private management consultant, and a public servant. Born in Scotland, he was educated in America. He joined the staff of the Rural Electrification Administration in 1947 as an Industrial Engineer and later was made Chief of the Management Division. In the Rural Electrification Administration his work was based on the agency's philosophy of helping rural people help themselves. Mr. McKillop brought to public administration the philosophy of scientific management of which he had profound understanding, yet in the execution of his daily tasks he always considered the rights of individuals. His contribution to public administration stemmed from a rare combination of native ability, management proficiency, and belief in human values. Mr. McKillop was a leader in the Graduate School's public administration program and one of its most successful teachers.

